

# Medical Times

A Monthly Journal of Medicine, Surgery, and the Collateral Sciences

Vol. XLI., No. 5

NEW YORK, MAY, 1913

Fifteen Cents a Copy  
One Dollar a Year

## BOARD OF CONTRIBUTING EDITORS

WM. G. ANDERSON, M. Sc., M. D., D. P. H. . . . . New Haven, Conn.  
JAMES A. BARBITT, M. D. . . . . Philadelphia, Pa.  
SETH SCOTT BISHOP, M. D., LL. D. . . . . Chicago, Ill.  
T. D. CROTHERS, A. M., M. D. . . . . Hartford, Conn.  
OSCAR DOWLING, M. D. . . . . Shreveport, La.  
KENNON DUNHAM, M. D. . . . . Cincinnati, O.  
W. L. ESTES, M. D. . . . . South Bethlehem, Pa.  
FRANK D. GRAY, M. D. . . . . Jersey City, N. J.  
ALFRED K. HILLS, M. D. . . . . New York  
NATHAN JENKS, M. Sc., M. D. . . . . Detroit, Mich.  
OTTO JUETTNER, M. D., Ph. D., F. R. S. M., Eng. . . . . Cincinnati, O.  
HOWARD LILIENTHAL, M. D. . . . . New York

STEPHEN H. LUTZ, M. D. . . . . Brooklyn, N. Y.  
ROBERT T. MORRIS, A. M., M. D. . . . . New York  
GEORGE THOMAS PALMER, M. D. . . . . Springfield, Ill.  
JOHN PUNTON, A. M., M. D. . . . . Kansas City, Mo.  
MAJOR IRVING W. RAND, M. D. . . . . U. S. A., Fort Hancock, N. J.  
CHARLES S. ROCKHILL, M. D. . . . . Cincinnati, O.  
GEORGE G. ROSS, M. D. . . . . Philadelphia, Pa.  
DUNBAR ROY, M. D. . . . . Atlanta, Ga.  
DUDLEY A. SARGENT, M. D. . . . . Cambridge, Mass.  
ALBERT H. SHARPE, M. D. . . . . Ithaca, N. Y.  
JOHN P. SPRAGUE, M. D. . . . . Chicago, Ill.  
ALMUTH C. VANDIVER, B. Sc., LL. B. . . . . New York

## General Scientific

### THE OTHER FELLOW IN US.

WM. LEE HOWARD, M. D.,

AUTHOR OF PLAIN FACTS ON SEX HYGIENE—FACTS FOR THE  
MARRIED, ETC.  
Westboro, Mass.

A short time ago in a Bowery beer hall I came upon one of the ripest scholars in this country serving as a "beer-slinger."

This man had made an international name for himself and had been employed by the government on secret and delicate errands where his life had frequently been in jeopardy. He was only forty-three years of age. Up to five weeks before I located him in the Bowery dive he had been teaching in one of America's leading universities. He was at the time a professor in the institution, and his absence had aroused much comment and fear for his safety, as it was well known among his associates that foreign enemies had threatened his life.

When I sat down at one of the dirty, greasy tables in the dive early in the morning and called him to wait upon us, the recognition was mutual. He did not, however seem to recognize himself. I mean this in a psychologic sense. His orientation—an actual knowledge of his real surroundings—the realization that he was a scholar and a gentleman, yet had sunk to one of the lowest strata of civilization, did not seem to have reached his brain centers. He called me by name and realized that he had known me in professional normal associations, but he still remained the Bowery tough.

He now had the features of the Bowery type. His eyes were watery and had the wandering, shifty look of the hunted animal. His lips were thick, puffy and dirty, and the words came across them in a hesitating manner. Upon questioning him he admitted his identity in a somewhat uncertain manner, as though it were true if I said so, but that he had no inclination to be pleased with the fact.

He was silent when questioned as to how he came to be in such a place. Again pressing him, he was the tough and told us it was none of our business, that he

was born in the Bowery, and for us "to get the h—out of 'ere." And he was smoking a rank cigar tipped upwards from his repulsive lips. Professor Blank had never been known to smoke a cigar; he smoked only cigarettes of Cuban or Spanish make.

He went to serve some new arrivals, and I waited for his return to our table, and then tried to make him realize his position. But all semblance of the scholar was absent, he only wanted to know "Why in h— we didn't buy?"

Much to my surprise, after his hours were over, he made no objection to going with us—I had a plain clothes man with me, and we soon had him placed in the psychopathic ward of Bellevue Hospital.

He accepted without protest our efforts to assist him but made no attempt to clear up matters. He was as a piece of clay; helpless to mould himself but plastic to the shaping of others. Finally the expected change took place and brought about the normal refinement of features, the gentle voice, clear skin and the appearance of self-respect. Once again he was Professor Blank and left the ward to resume his mental labors.

We know little or nothing of the associations of our germ plasm in the dim past. Certainly these associations have been all sorts and kinds as the living remnants show. Just how much is atavistic recurrence from remote ancestors, to what extent germ-rooted personal idiosyncrasies remain to assert themselves, is not knowable at present. However, I do know something of the ancestral history of this man; and from my knowledge of his germ plasm passed down through several generations, it is not surprising that under a brain poisoned from non-eliminated bodily by-products, he should have reverted to a low type of humanity.

It is the old story; what lies hidden in ancestral reproductive cells reappears under certain circumstances. Nature is absolute and her laws are irrevocable.

We are all twins in character. There are momentous periods in every man's life when he feels that there are two persons in his make-up. Born of one body the two individuals exist side by side—separate yet inseparable.

In our psychic life vice and virtue are the twins. Warring moods seem to be attributes of intellectual man. In him move love and hate, repugnance and attraction, pleasure and disgust, kindness and cruelty, truth and falsehood. The higher the mentality the stronger these antithetical moods.

For this reason great men have been either overpraised or wrongly blamed, depending upon which fellow was in control when observed by their contemporaries. The moods of their historians are also vital factors in the summing up. This is also the reason why under certain circumstances and conditions we make enemies, under others, fast friends and loyal admirers.

During rational periods every man has a decided feeling of self respect, of normal egoism. When the other fellow gets on top he makes us lose this self-respect and we become his plaything—ugly, nagging, untruthful, vicious. A sense of self may be so acute as to bring us to the pinnacle of greatness, only for the other fellow to gain control at this time. The pinnacle is pulled down by the jealous twin brother and we fall into the muck and wallow with him.

That these conditions may exist as a lesson to us in the grosser side of life—the mere physiologic form of man—was shown by the Siamese twins. These twins were joined by a band of flesh stretching from the end of one breast bone to the same place in the other twin. Yet the men differed widely in appearance, character and strength as well as habits. Chang was intemperate and irritable; Eng, sober and patient.

As many a good man has died from shame and shock due to the immorality of "the other fellow in him," so did Chang's twin brother, who was physiologically and atomically tied to his drunken mate, die from the vices of Chang. Strive as he could, the right side, Eng, could not change the evil left side of himself, Chang.

We are synthetically formed, and to get the best in us we must analytically live—that is, separate the good fellow from his evil brother. Allow the two fellows in you to get mixed up and your life is a series of successes and failures, determination and cowardice, the impelling powers of antagonistic impulses making existence useless.

The man who passes through these moods and never struggles to control the lower self, lacks the complete psychical development of the normal man. It is the careful watchfulness of the other fellow in him, the getting command over him, that goes up to make the successful man. Too many men think that the mastery of mere sordid things, money, success in getting control over other men, is the main object in life. Such men are dismal failures in the accomplishment of man's true work—the controlling of his own warring and complex natures.

You start out at night intending to witness a drama of force and instruction; the other fellow in you takes you to see suggestive lechery and the muck of wantonness. The good fellow in you has been submerged while the other chap revels in his evil pleasures. You leave home promising your wife not to drink; the other fellow in you takes you home drunk to a sorrowing wife. He now wallows in his control of you, curses and shouts: "Think I'm going to be a slave? Not much; I'll be my own master!" When the aftermath arrives, Remorse, who is really the other fellow weeping, controls you; sometimes pushes you into despondency.

The other fellow in man is jealous of the good fellow's love for a pure wife, so he makes him speak ugly innuendoes, utter insults, use words that cut like a

jagged knife. He makes him gracious to unworthy women; often desires for the lewd.

"The other fellow in us" has one great, seldom-failing lure. It is good at all seasons and tempts all men. This lure is—shining gold which flashed before the eyes acts as a hypnotizer. It causes the literary man to write vile and suggestive stuff for the money there is in it. He even lets the other fellow's name be signed to it; for the good chap absolutely refuses to be in any way connected with the injurious matter. This state of affairs is not uncommon. The lure of gold puts to sleep the good fellow and the evil rises to the bait. This is the cause of many strange downfalls.

A physician, upright, holding to the laws and tenets of his profession, kind, honorable and honored, is suddenly controlled by the ever dangling lure.

"But, doctor, I'll give you a thousand dollars."

Then the good fellow whispers: "Don't do it—it's criminal, sinful, evil."

But the twin brother knows his business for he at once puts in: "But only see, doctor, what a noble duty you'll be performing—saving the honor of the family."

The evil fellow conquers for the time being; but the gold is the man's curse.

I recall a sad case of this kind, a once honorable and brilliant surgeon in the asylum ward, became a pauper; raving at times over his crimes; haggard, trembling, fearful of SOMETHING, something ever hanging over him; thirty-four years of age, sixty in appearance and suffering. It was pitiable, but it was just. I've seen many such sad cases; in fact I have never known a physician who let the lure of the other fellow control him do other than sink to the lowest stratum of life.

The other fellow in you is one of the deluding, despotic passion. Even when men are truthful to each other they are often liars to their other selves. Have you ever stopped to think how frequently you let the scoundrel in you control your words—let him lie for your good chap?

You have repeatedly told Jones that you were his best friend; that in you he had a friend who would always stick by him, and so on. Jones had money when you boasted of your loyalty. Now he needs assistance—not much, just a little business lift. What do you say? Well, you just call on the other fellow in you and get him to reply to your friend.

"Sorry, old man, but you see matters are very tight with me just now. If you had only let me know of it last week. But now I am really not in a position—I'd do it in a minute, if I could."

When "the other fellow in us" has turned away the good, we are the thing we were not, yet are, and will be again. We have all known these paradoxical states; some of us forcibly, a few fortunate ones only dimly. Just why men of active brains—men of talent and genius—most vividly demonstrate these two opposing personalities in one body, psychology only tentatively explains.

A patient of mine, one of the most brilliant newspaper men in this country, thrown down "by the other fellow in him," made a personal study of one phase of these alternating personalities and expresses himself as follows:

"Was I insane during these attacks! Yes; but it was a wierd and strange insanity. I knew I was myself, but had no power to be myself. This appears to be paradoxical, but it is not.

"I was myself merely in the gross body-form; my ego was for the time being *non est*. I was rational and

lucid in act and speech, but it was not the rationality and lucidity of my real self; it was always a personality the antithesis of my own. I would be stopped in the midst of important work—life work—and plunged into quite a different life which was taken up with enthusiasm and continued until the day when I became myself again, when I returned—and here is an astonishing fact—with fresh mental powers for the work I had been forced to leave. That is the word which expresses it, FORCED by my other personality.

"What is this personality that enters my body and drags me down to the level of beasts? When it leaves I suddenly rise to that intellectual and moral plane which is my birthright. Is it my birthright? Sometimes I think not, for in my other periods I am so comfortable, so mind free, so joyous and active, aimlessly roving from town to town, saloon to saloon, dive to dive. During these slothful periods this indolence seems natural to me. I know I am not I, yet I am content to be what I am, for there is a hazy remembrance that when I am myself I have hard mental work, responsibilities, anxieties, all of which my second personality is free from, and which all the wealth of the city could not tempt me to assume again.

"What were the thoughts and memories during these periods of my second personality? Did I realize that I had lost all? Did I fully understand that from a respected and brilliant man I had sunk beneath the level of beasts; that never again could I regain the confidence of my employers whom I had so disgracefully deceived? Did I in any manner realize that my prospects were gone—that I was morally dead? Did I, you ask, have any such knowledge of myself?

"No, I did not. My second personality was almost, if not quite, oblivious to the first. When I was myself I had indifferent recollections of the life and habits of the second personality, all of which, however, I tried to drive away; for fear, discouragement and remorse several times pushed me to the verge of self-destruction—as it has many a poor devil like myself. This state would rise when some sudden flash of what I had been passed like a horrible spectacle across my memory.

"But I did want to succeed—to try again; and I was always hopeful when controlled by my first personality. The reputation I had made in newspaper work and literature, when myself, enabled me always to obtain a position, though I never applied for one in any city from which I had been driven by my second cursed personality.

"Imagine my feelings, if you can, when men said to me: 'Look here, if you would stick to your work, if you could be depended upon to use that brain of yours, if you would only keep your word and promises, you could have the highest position in journalism. You know this—now why do you make a fool of yourself and of those who are your best friends?'

"Yes; why?

"Is it strange that I should have been discouraged, morbidly suspicious, at odds with the world after these fights with my demon personality which would take possession of me at the most important crises of my career?

"Yes, this was the most disheartening part of it all. I had become so suspicious of my selves that I refused responsibilities, all positions of responsibility, would take no big assignments for the fear, the awful dread, of the clutches of that other slimy self. And here entered a most important discovery in my dual personality—the greater responsibilities I had, the greater interest I took in a subject, the keener the ability I demonstrated in

working it up—the quicker, the more degrading would be my downfall. Oh, the horror of it all! To live with a brilliant intellect, but Tanialus-like to have it always just beyond your reach—beyond your control."

We often accuse a man of being a hypocrite because we have heard him preach morality one month and seen him walking, yes, galloping, with vice the next. Yet he was sincere in his preachments, *that fellow was*; but when the other fellow took his turn the moral brother went to sleep.

I knew a man who was a loving father and husband. He was a brilliant lawyer; a highly educated man. After a strain of study and close application there came over him a decided change of character. He recognized the control of "the other fellow" in him who invariably started on a period of booze, bombast and breakage. One day he went home determined to get enjoyment by beating his little wife he had so fondly kissed in the morning. His change of personality was not due to drink. Up to this point he had not touched a drop of liquor. He entered his home angry and ugly; he did beat his good wife. Then he departed to find low companions. In a week the foul personality had exhausted itself and the other man sought forgiveness from the patient wife.

The other fellow in us at times manifests itself in queer sex upsets. The struggle some physical males have to be really males in thoughts and acts have been too great to combat, and either the female elements in them send them to the gutters with the scorn and horror of the world, or the female twin whispers: "Let us get out of this misunderstanding world and try over again." Conversely the pronounced masculine woman is through the "fellow" in her. He is constantly asserting his right to be heard.

A short time ago there died in a cheap furnished lodging house on North Ninth Street, Philadelphia, a woman who was a well-known society light. On certain days in each month she changed to a habitant of the tenderloin. Here she consorted with the lowest, dressed in gaudy and cheap clothes, drank, swore and existed the veritable life of a modern Messalina. When morning came she was the refined and virtuous woman and entered the homes of refinement she was entitled to by birth. It is very doubtful if she had any connecting link of memory of her dual life.

Many persons show to the world only the fellow who insists upon demonstrating his low nature. Low and vulgar the man is considered, but in him may exist beauty and truth. External beauty is visible to all, and we all desire it some time in our life—that is when the good fellow controls. But interior beauty is not visible to superficial glances; it is not encouraged to come forth; its normal attributes are stamped down, crushed in by the mob who can see only the externality of things.

"The other fellow in us" can be noticed in the adolescent. At school the trained observer may see the struggling of dual personalities. It is right here that much can be done by the intelligent and all rounded teacher. It is at this stage that there must be complete separation of the sexes in schools.

The boy struggles with himself, with his studies, with exploding nature. Often blamed because the evil twin in him is uppermost, he becomes discouraged and loses faith in himself and his teacher. Misunderstanding of his impulses, assumption that his frailties are self-willed and that he is inherently bad, strengthens the dominant personality which later on in life assumes major control.



There was the other fellow in him who could have been encouraged, drilled and developed to become the stronger brother to guide the man in him into fields of usefulness and love. Virtue and vice have a lodging in all normal beings. Neither can be completely eradicated, but one must be the major controller, and it depends upon understanding, training and watchfulness which one is to be.

In this understanding, in the watchfulness and acceptance of vital truths in the development of youths and girls, the public schools are lamentable failures. Doctors know this.

How often a physician hears a sorrowing mother say: "I can't understand it, doctor. Helen was such a good girl; always kind, loving, truthful. But now I can do nothing with her. She—oh, I hate to tell you, doctor; she—well, she deliberately lies. Lies to her father and to me! She's flighty; rebels at restraint; goes with companions whose evil influence I fear, and will stay out late at night. Oh, what can I do?"

The other woman in her is getting power; is growing dominant. Your daughter needs to be environed by the best influences—her psychic and physiologic growth need constant attention. High school dances and their social attributes are injuring her. Also books, studies, lessons should now be laid away for a few months; they should be a side issue in her education for a year or so.

The good woman in your daughter needs cultivating, strengthening, watching. This can be done only by keeping with her day and night, a strong, developed woman—one who is all woman. Such a woman should be one who understands life, real physiologic outbursts, knows not the words "prudery, hypocrisy," and who has ever in her mind the fact that nothing in nature is impure—that facts in adolescent growth are more important to understand than facts in astronomy or the memorizing of "Curfew Shall Not Ring To-Night."

When a woman of the streets gazes at a "Madonna and Child" by Rubens or Raphael, and says to herself: "If I had such a child as that I believe I could be a good woman;" do you see that the good woman in her—the other woman—is having her first opportunity to assert herself. This good woman has always been there but conditions, environment and teaching have kept her down.

Yet the tears roll down the rouged cheeks of the woman as she looks eagerly at the little child and its pure faced mother. Never before has she been able to release herself from the slimy coils which early habits fastened around her. The good woman in her has never been killed, she has remained hopeful while constantly struggling. Now, on seeing the "Madonna and Child" some unconscious suggestion has touched the hidden springs of thought and feelings, and the mirror has been placed before her.

#### Deaths from Cancer.

Over 16,500 deaths from cancer of the stomach occurred in 1910 (42 per cent. of all lethal cancers arising in this organ). From analyses of the first symptoms of sixty-nine cases of cancer of the stomach the onset of symptoms was either (1) acute (39 per cent.), (2) subacute (32 per cent.), or (3) chronic (29 per cent.). Group one is made up of those patients whose first complaint was pain or who began to have pain in a short time after the onset of symptoms. The importance of pain as a symptom cannot be overestimated. Pain as an early symptom, one of the first three complaints, was noted in 60 per cent. of the cases.

#### PARANOIA IN THE COURTS.\*

HON. FRANK MOSS,

ASSISTANT DISTRICT ATTORNEY OF NEW YORK COUNTY.  
New York.

Paranoia has come before the court recently in two aspects: 1. As a defense to crime. 2. As a criticism on testimony. As a defense to crime it is necessary that it fall within the rule established by the penal law, which is, that a person is presumed to be responsible for his act, and that he is not excused from criminal liability unless he be laboring under such a defect of reason as not to know the nature and quality of his act or not to know that it was wrong.

As a criticism on testimony, it must be considered in its bearing upon the competency of the witness in four particulars: his ability to observe, to remember, to state and to appreciate the binding force of the oath.

I will limit my paper to statements of facts and circumstances that have come under my observation in two cases: the People against Charles H. Hyde and the People against John Cain.

Hyde was accused of bribery in having induced one Robin to make a loan to the Carnegie Trust Company for the benefit of his friends who controlled the company. He claimed that Robin was a paranoiac, and that his testimony should not be received or should not be credited because of his paranoia.

Cain, a negro, was charged with murder in the first degree in having killed a man by stabbing. Before Cain was subdued he had stabbed several persons, of whom two died. The defense in his case was that of insanity, and the specification was paranoia.

During the trial of Hyde, an expert witness, assistant superintendent of a State hospital for the insane, was called by the district attorney, and he testified that in his opinion Robin was not afflicted with paranoia nor with any other form of insanity. This gentleman was the only expert called for by the State, though six or seven experts were called for the defendant. A prominent alienist, who had been concerned with the question of Robin's alleged insanity, wrote a letter to one of the counsel for Hyde in which he said in substance that the expert called by the State had been discredited by the Court of Appeals in the case of John Cain. John Cain was convicted of murder in the first degree after a jury had heard the testimony of the defendant and his witnesses as well as the testimony presented by the People, and after they had listened to expert witnesses called on both sides of the case. On the argument of the appeal in the Court of Appeals, the State was represented by the learned head of the appeal bureau of the district attorney's office, who had not participated in the trial of John Cain, and on the argument he presented the case as one which fell surely and plainly within the rule established by the penal law, whether or not Cain was afflicted with paranoia, because whatever might have been the peculiar delusions that Cain claimed to have, they were disconnected from the impulses which led him to the commission of the murders. He has stated to me that he did not declare John Cain to be sane, but that by way of argumentation he claimed that even assuming he were afflicted with paranoia, still it was a clear case of legal responsibility for the crime. The Court of Appeals, sustaining the verdict, suggested that if there were a question concerning Cain's mental status, he was under observation and it was within the power of the Governor to exercise clemency. With the consent of the district attorney the

\*Read before the Society of Medical Jurisprudence, April 14, 1913.



Governor commuted Cain's sentence to life imprisonment.

What I wish to emphasize is my belief that experts are not cold-blooded on the one hand nor mercenary on the other hand; that the subject is uncertain; that its legal bearings are indefinite; that regardless of fees or other incentives, men are inclined to stick to preconceived notions, even though they be experts, and to battle for the opinions which they have stated, that for the greatest accuracy in the examination of doubtful cases, the examination and opinion of the alienist should be supplemented by those of the general practitioner; that the situation will be improved by official experts, who, however, should not be confined to those who specialize in alienism.

The crime for which Cain was convicted, occurred in 1911. Cain was riding uptown on the platform of an elevated car, and had a cigar in his mouth. Several other men were on the platform, and one spoke to him about the cigar. Some words passed between the two, and at 104th street the other man stepped off onto the platform and dared Cain to follow him. Cain rushed off the car after him with an open knife in his hand. He chased the man down the stairway and at the bottom was met by a policeman, who, seeing the knife in his hand, endeavored to arrest him. Cain cut the policeman with the point of the knife. Somebody tripped him and as he lay on the sidewalk he struck again, cutting a man. The crowd fell away and he ran up the avenue and cut one or two men whom he thought were trying to intercept him. Further along another policeman endeavored to stop him with his club and he was stabbed. Finally two officers with drawn revolvers backed him into a hallway and as he flourished his knife one of them shot at him, inflicting a wound in the leg. He was then arrested. He had accomplished his bloody work by extraordinary agility and dexterity. In October, 1900, Cain stabbed and killed Richard J. Bell, a pedestrian on Broadway, because Cain believed that Bell jostled him intentionally on account of his color. He pleaded guilty to and was sentenced for manslaughter.

On May 15, 1909, when Cain's term of imprisonment was nearing its close, he was transferred from Sing Sing to Dannemora State hospital on a certificate which declared that he said there was somebody outside of the wall who was saying rotten things to him; that he felt something burning parts of his body; he guessed it was acid. The certificates stated further that there was some motor unrest, that he had been noisy and had shouted at some one he imagined to be in his cell; that he had become morose, though formerly cheerful. This condition had been noticed for several months, and it was nearly nine years after his incarceration. It might easily have been a prison psychosis (which disappears on discharge). Cain went to Dannemora and after being there one week, all those symptoms disappeared, and there was no further manifestation of insanity. A few months afterwards, his term of imprisonment having expired, he was discharged as "cured." There was no evidence showing illusions or delusions between the time of his discharge and the trial of the case, and the case went to the jury on the report above mentioned, and on Cain's own testimony, wherein he declared that he was hearing voices and feeling burnings, and that he believed they were inflicted by his enemy, one Rose, a keeper in Sing Sing, where there was an electric machine which was used against him. He called two physicians as experts, who agreed with the three called by us, that in all respects Cain was normal except so far as he told these things about

his feelings and thoughts. This testimony was supplemented by that of the prison keepers, who declared that he was a model prisoner. Cain testifying about the murders, said he heard no voices while on the platform of the car, and had no annoyances whatever except by the man whom I have mentioned, and who was demonstrated to be a real man. He said that this man was in no way connected with the voices or with his enemies, that he became involved with him on the platform and that all that he had done in cutting people was to defend himself against their attacks upon him.

I presented to the jury the proposition, that if this man's murder of Richard Bell in 1900 was the result of paranoia, there should have been a more marked condition at the time when he was tried, and I raised the question whether he was not rather a ferocious man, reverting to an aboriginal African type, when he was angered, and whether his alleged mental disturbances in 1909 at Sing Sing prison were not occasioned by a desire to be transferred, and whether the successful experience he had there did not cause him, while in the Tombs waiting to be tried for this last murder, to make a similar claim in the hope of escaping from the electric chair.

It was assumed that the experts for the People had testified unqualifiedly that Cain was sane and the experts for the defendant that he was insane, and the action of the Court of Appeals and the Governor was assumed to be a rebuking of that testimony.

The first of the physicians called by the People was the visiting physician at the city prison, whose testimony was simply that he had observed the defendant in prison, that his health had been excellent, that he had made no complaint of nervous conditions or of any sensations on his skin, that his physical conditions were all normal, etc. On this data the prison physician said "Based upon that amount of observation, under the conditions named, I believe him to be sane, that is, as confined in the city prison from the time he came."

The second physician-witness testified to similar physical examinations, testified that in his opinion if he had paranoia in 1900 when he killed a man with a knife, its continuance to the present time would necessarily show some symptom of abnormality, that he was coherent, intelligent, docile, neat and orderly; that there was absolutely no symptom of mental disorder beyond his own statements, and he believed the man to be sane.

The third physician, the gentleman concerning whom the letter was written by an eminent alienist to Hyde's counsel, testified merely as to the nature of paranoia and of certain other disturbances of the mind, and was not asked to give and did not give any opinion as to whether Cain was sane or insane. The purport of his testimony was the statement of an opinion that if a man had committed a series of stabbings and murders under an insane impulse and had lain in prison awaiting trial for six months, it would not be reasonable to believe that the murders were the result of insanity, if there was no outbreak in prison, nothing but orderly conduct; that the power to inhibit all insane words and conduct in prison and during the trial indicated that he could have refrained from committing the murders; that if a person had been developing paranoia for a number of years, culminating in this extraordinary crime, he would not be able to shut out the voices and not listen to them in court as he testified that he did during the trial; that his delusions would be dominant.

The discussion of this case cast some reflection upon the district attorney's office as well as upon the alleged cold-blooded experts, and for this reason I want to say

that whenever there is a fair question as to the mental status of a defendant, if the defendant's counsel will consent, I send to that defendant an expert alienist and a wise general practitioner, who are requested to report whether or not in their opinion the defendant is sane or insane, or whether he should be put upon trial. Our only object is to know the truth. I am confident that the judgment of the alienist specialist should be supplemented by the opinion of an all-around general practitioner. The man who is dealing with humanity under all conditions and with the human organism in all its departments has a broader view than the one who has concentrated his attention upon a specialty, and when they work in harmony the result is good.

The specialist, I think, is apt to run in a groove. He thinks in a groove. He accepts too literally the statements made by the subject. This is especially true of paranoia. What the subject thinks may be the entire basis for his opinion, and the subject may state his feelings untruthfully, inaccurately or by suggestion. I think the extraordinary statements of Robin, made two years ago, were largely the result of self-importance and suggested ideas, coming to him at a time when he was particularly susceptible through his situation and his condition of mental stress and nervous breakdown.

I have already stated that the question of paranoia arose in the Hyde case, through an attack upon the credibility of Robin as a witness, based upon the proposition that he had paranoia at the time when he testified to his conversations with Hyde two years ago, and that his paranoia continued down to the time of the recent trial; so that he was unable to observe correctly, to remember and to repeat correctly at the recent trial, and that he was not in a condition of mind to appreciate the obligation of the oath.

Two years ago Robin was arraigned before Judge Swann and a jury to be tried on an indictment for grand larceny, and it was claimed on his behalf by eminent counsel that he was insane. At that time he, himself, declared that he was sane, but his counsel insisted that it was not so, and a number of our leading alienists examined him and testified that he was suffering from paranoia and could not properly defend himself.

The district attorney called no expert witness. Robin testified and insisted he was sane; the jury so declared and his counsel withdrew from the case. He pleaded guilty, and shortly thereafter began to give to the district attorney a great amount of information which led to the indictment of former officials of the Carnegie Trust Company and other persons, which led ultimately to the conviction of persons upon evidence of individuals other than Robin.

On Hyde's trial several of the alienists who two years before had examined Robin and testified were called and several of them testified positively that Robin was insane when he was examined before Judge Swann; that his disease was paranoia, an incurable and progressive disease, and that without a doubt his paranoia continued to the time of the recent trial. Robin was in the court house and was subject to the examination of these experts, if they desired to examine him, but it was deemed by them to be unnecessary, and so there was presented an almost humorous situation wherein eminent scientific gentlemen testified to the delusions of Robin two years ago, definite, expressed, positive, which could not be cured, but must progress, and after they had given their solemn testimony to the jury, Robin himself appeared as a witness, and for hours withstood direct and cross-examination which probed not only into the matters of business connected

with the case, but into these very delusions. He sustained himself with patience and clearness, maintaining quiet dignity throughout, and acting in every respect as a well controlled gentleman should. The positive statements of the alienists fell to the ground. So complete was this demonstration, that on appeal, counsel for Hyde abandoned their contention made on the recent trial that Robin was insane, and therefore unbelievable, and now they go entirely upon the proposition that he was simulating all the time, and that he should not be believed because of the wickedness of his simulation. But the testimony of the experts was positive upon that proposition; there could be no simulation; he was insane with paranoia, and it was true paranoia. These excellent alienists were confident or they would not have testified without an examination of Robin, and I think it enforces my position that the alienist relies too much upon the statement made by the subject whom he is examining, and that he is too apt to make an exact science out of that which cannot be exact. The position of our single expert was that after a close conversation with Robin for seven hours, in which every one of the delusions which had been discussed by the main body of alienists was examined into, there was absolutely no perceptible trace of mental difficulty, that every one of the delusions was accounted for without assuming simulation, and that two years ago when Robin was examined by the specialists he was suffering, not from true paranoia, but from a paranoiac condition, out of which he had passed and from which he had fully recovered.

Whatever may be the fact, this is perfectly clear, that when Robin testified at the recent trial, being examined for many hours in every possible way, he was clear-minded, free from delusions, and possessed as good a mentality as any that appeared in evidence. Did he simulate or was his trouble a paranoiac condition rather than a true paranoia? Eminent experts testified didactically that without making any present physical examination, his condition was so certain to their minds two years ago, that it was bound to be the same now. But almost immediately the subject was produced, and every delusion had disappeared and we had an exhibition of perfect mental balance, maintained under extraordinary pressure.

It should be noted that all of the experts declared that even with paranoia the faculty of observing and remembering need not be affected, unless perhaps they be intensified, and that the delusions which they had discovered two years ago were in no way related to the subject-matter of his testimony on the recent trial.

All that I care to say about the meaning of these facts is that they seem to indicate to me, as I have previously stated, the importance of supplementing purely scientific observation with that of the general practitioner, the danger of accepting the statements of the subject himself so finally as to make positive deductions therefrom. So far as paranoia is concerned, the comparative infrequency of true paranoia should leave, I think, in the minds of scientific observers a large margin in favor of paranoiac conditions which may pass away and leave the subject free from mental disorder.

I have been told that the diagnosis of true paranoia requires a long period of time—months—and close observation under varying conditions.

Since writing this paper I have heard Justice Seabury instruct a grand jury concerning the examination of Harry K. Thaw, a committed paranoiac, as a witness, and as this is the latest statement of the law I quote it:



I am informed that, in regard to a subject under investigation by you, you desire to take the testimony of one Harry K. Thaw, an incompetent person. The court has examined the witness and finds that he comprehends the obligation of an oath and that he is capable of giving a correct account of the matters which he has seen or heard in reference to the questions at issue.

I charge you that there is no legal reason why you should not receive the testimony of that witness but that in weighing his testimony and determining as to the credence which you will accord to it you should take into consideration the fact that it is given by one who has been adjudged insane. The witness whom you propose to call has been adjudged so insane as to be criminally irresponsible.

The fact that one has been adjudged so insane as to be criminally irresponsible for a particular act does not determine the question whether he is so insane as to be incapable of testifying. Hence it has repeatedly been held by the courts that the fact that one has been adjudged insane does not render him incompetent as a witness.

Formerly the courts based the reception of this evidence on the ground (1st) of its necessity, because in many cases if it were not received, criminals would go unpunished. Often, especially in asylums, the insane are the only witnesses to wrongful acts.

Second—On the ground that the evidence of the insane person is merely corroborative of other proof.

These reasons for receiving the evidence of such persons are weighty, have had the approval of the courts and are not to be disregarded. The more modern authorities, however, uphold the same rule but do so upon a firmer basis in reason.

They recognize the fact that insanity assumes many forms, and is often partial in its extent and confined to particular subjects, while upon other subjects there is intelligence and freedom from delusions.

The modern law recognizes that persons showing mental derangement on some subjects evidence intelligence upon others and therefore upon subjects disconnected with the subject of their particular derangement they are capable of making an accurate and lucid statement as to what they have seen or heard.

The fact that the witness has been adjudicated insane and relieved of criminal responsibility for a particular act does not preclude you from receiving his testimony for what it may be worth.

Nor will the fact that you receive his testimony have any bearing upon the question as to whether or not he is now sane or insane. He has several times been adjudged insane and I know of no reason for questioning the correctness of those determinations.

If you receive his testimony you must do so in appreciation of the fact that you are receiving the testimony of an insane person. Inasmuch as the witness whom you propose to call is insane you will not ask him to sign any waiver of immunity. Nor will you insist upon his answering any question, the answer to which might in any way tend to implicate him in any unlawful transaction. I make this statement to you because as an incompetent person the witness is entitled to the protection of the court, whose ward in a sense he is by reason of his insanity.

I charge you that you will not return an indictment against any person upon his uncorroborated testimony. If, however, his testimony is corroborated you may give credence to it and act upon it.

In the Cain case the Court of Appeals was impressed with the argumentative assumption of the assistant district attorney that Cain might be insane and with the

opinions of the three experts called by the defendant that he was insane. Nevertheless as there was opinion and evidence which had convinced a jury that he was capable of understanding the nature and quality of his act and that it was wrong, the court refused to reserve the judgment and left the matter of mercy with the Governor. This is the latest important decision on that phase of the law.

In the Hyde (or Robin) case, twice a jury dwelt with the question of insanity practically and in a way contrary to the weight of the professional testimony, and their verdicts as affecting that question have met with general approval.

In the Thaw case we have the latest decision upon the admissibility and the weight of the testimony of an adjudged lunatic.

A question worthy of discussion appears in the testimony of Dr. Wildman called as an expert for the defendant in the Cain case.

Paranoia (formerly called monomania) manifests itself by systematized delusions on certain subjects. The person may be normal generally, and may have morbidly intensified memory and ability to restate accurately what he has seen and heard. But how much and how far are his general faculties impaired by his insanity, even though that insanity be evidenced only in a limited way? That is a very important question.

#### THE NEW RADIUM AND THORIUM THERAPY.\*

FRANK H. BLACKMARR, B. S., M. D.,  
Chicago, Ill.

I had the pleasure of spending nearly four months among the radium workers in Europe and with the knowledge from my observation I can say that the field in which radium and thorium therapy is developing, is *permanently* enlarging.

Many operators in this country think only of the direct local application of radium and thorium. I can assure you that the local treatment (superficial) is but a point in the now proven sphere of their usefulness.

Prof. Falta, of Vienna, with an enormous clinic and a wealth of materials with which to work, has accomplished in a careful, cautious, scientific way, more than anyone else in the field of radium workers. In this brief paper we shall not touch upon the direct application of radium and thorium to the skin, but shall consider the energies disintegrated from them that can be absorbed by the human tissues.

*First*—a brief word in review—there are eight successive radioactive disintegration products of radium. The first product formed is a gaseous element known as the *emanation*. This does not enter into chemical combinations but gradually disintegrates into solid radioactive products deposited upon the surfaces adjacent to it. The life of the emanation is represented by disintegration constant and has been determined to have a half value period of three and eight-tenths days (the half value period of radium is two thousand years) so that you may have in mind the comparison between thorium emanation and thorium x, with which we shall have to deal later on. I shall state that thorium emanation has a half value period of 54 seconds, thus eliminating its usefulness in therapeutics because of its rapid disintegration.

Thorium x has a half value period of three and six-tenths days. Please remember the comparison of the life of radium emanation—three and eight-tenths days

\* Read before the American Association of Clinical Research on Nov. 9, 1912.



—and that of thorium x, three and six-tenths days. This paper has to do with radium emanation and the thorium x treatment.

The most popular method of the usage of the radium emanation is by inhalation in a closed room or emanatorium, in a covered area such as a bed with a hood over it or by the small hand machine. The best of these is the inhalation room, popularly known in Europe as the emanatorium.

The emanatorium is an air-tight room with double entrance doors so that the patient in entering or leaving the room closes one door before he opens the other. The machines in use are constructed to absorb the carbonic oxide eliminated by the patient as well as the organic matter and the ammonia. The moisture is condensed and the temperature is likewise controlled. Knowing the cubic number of feet in the room and the quantity of oxygen absorbed by each patient in cubic feet, it is a simple matter to supply the correct quantity of oxygen per capita of those sitting in the emanatorium. It is absolutely necessary in supplying the oxygen to the room to see that the patient has just enough oxygen and that he is not over-stimulated. In pouring the oxygen into the room the emanation is carried with it from the radium solution or from an emanation saturated water solution. The dosage or strength of the emanation in degrees is designated by what are called Mache units. A Mache unit represents one one-thousandth of an electro-static unit. For instance, in speaking of the emanatorium in the city of Vienna it is described as having four mache units per litre of air in the room. In the emanatoria of the Vienna hospitals they operate with from four to forty mache units per litre of air space. The patients are seated in this room from one to four hours according to the condition under treatment.

The majority of the cases treated in the emanatorium react. By reaction I mean an aggravation, slight or severe, of the condition under treatment. I have seen patients react under small dosage, four mache units, from one treatment lasting but one hour. The majority of cases in which reaction takes place improve. The class of cases are those represented under the heading of defective metabolism, viz., rheumatic conditions of all forms, neuritis, neuralgias, insomnia, and among them, locomotor ataxia, for relief of pain only. In general the result is in the establishing of a foundation for constructive values.

What I have said concerning the emanatorium room may be duplicated in the bed emanatorium where the patient is unable to go about and here I want to call your attention to the work done by Falta in the use of the bed emanatoria in pneumonia. He reports lower temperature, improved elimination and great comfort and relief to his patients.

Another method of administration is by what the Germans call the *Drink Cure*. The emanation of radium is taken up in distilled water in certain strengths indicated by the mache units and is administered in frequency of dosage according to the condition of the patient. In the case of the inhalation of the emanation the gas is taken directly into the blood from the lungs. In the drink cure the emanation is taken up more slowly from the digestive apparatus into the system.

The subject of dosage of the radium emanation has occupied the attention of all investigators for the past two years. It has been proven that there is a vast difference between the doses that are toxic to animals and those that may be toxic to man. The dosage that is toxic to man in healthy condition has not been deter-

mined. In the emanatorium where the radium emanation gas is inhaled an individual who is ill from the absorption or retention of waste products from a disordered chemistry of the body usually undergoes what I have described, a reaction. A healthy individual under the same treatment, same length of time and the same number of units of emanation strength suffers no inconvenience. As I have stated before the majority of cases of chronic inflammatory trouble, gout, rheumatism, neuritis, show a reaction, and a large percentage of those that react show subsequent improvement. The aggravation in reaction intensifies to the limit all the symptoms of the original illness. Furstenburg gives the relation between reaction and cure by the radium emanation treatment in his statement that "He found a more frequent improvement with a strong reaction."

While the use of emanatoria is an easy regular method of administering the radium emanation there are some things to be taken into consideration in such administration. First—many times I have found in visiting different emanatoria that the air was impure or in some others that the patients were over-stimulated by too much oxygen, and again in others there were too many patients confined in the limited space. These are serious matters and every physician referring cases for emanatorium treatment should be first satisfied of the absolute control and care of such treatment rooms.

In the use of the emanation drink cure all the dangers of the above are eliminated and it is easy to understand that correct doses of emanation can be easily maintained.

Every living cell of the animal organism is influenced by the radium emanation. Some tissues are more sensitive than others. The structure that is most of all of interest is the blood tissues and particularly the influence of the emanation upon the conduct of the leucocyte. This was demonstrated first upon frogs and later Prof. Falta of Vienna made the demonstration upon human beings. He placed a healthy individual in the emanatorium from six to twelve hours. There was an increase of the number of white blood corpuscles from eight thousand to sixteen thousand. On the next day a deficiency of the white cells obtained lasting for several days. Many investigators at first felt sure that they had discovered in the radium emanation a cure for leukaemia and the anaemias, but subsequent developments have shown that the diminution of the leucocytes under the radium emanation treatment does not progress beyond a certain point. After this discovery Falta began his investigation with thorium emanation. He found thorium emanation had a life half value of 53 seconds and the results obtained were transitory. Lastly, he began the work which means much to every investigator, viz., the thorium x therapy.

The results of the use of thorium x in leukaemia and the anaemias are wonderful. The physics and chemistry of thorium I shall purposely omit. Again I call your attention to the fact that thorium x disintegrates half its value in three and six-tenths days. It is a body of very high radioactivity, giving off at first alpha rays and these in turn beta and gamma rays. I quote an extract from a report read before the society of physicians at Vienna on March 15th last: The observation that large doses of emanations of radium caused at first hyperleucocytosis and if administered for a long time a slight diminution of leucocytes has brought us to the idea about a year ago to treat leukaemia with radium emanation. The experiments carried out in the laboratories and the clinics evidently did not bear out what Prof. Falta expected from the use of radium emana-

tions because in a later announcement he stated that the decreased number of leucocytes did not further materialize, notwithstanding treatments of several weeks' duration with large doses. He immediately began the work with preparations of the highly active thorium x to see if it would not continue to diminish leucocytic production.

His first experiments demonstrated the positive elective effect upon the leucocytic apparatus. The following experiments and the reports of clinical cases will show you why I remained a month and a half in Vienna instead of one or two weeks. It might be well for me to give you an idea of the evolution of thorium products in the order of their disintegration.

Thorium gradually decomposes into mesothorium. This has a period of half value of five and one-half years' duration and decomposes into radio-thorium, which has a period of half value of two years' duration and decomposes into thorium x, which has a period of half value of three and seven-tenths days, continually furnishing emanation. This emanation, as I have told you, decomposes in 53 seconds, which is too short in its lifetime to be of any service in therapeutics. The soluble product of thorium x is either given by the mouth or dissolved in a normal salt solution and administered hypodermically. The effect by the mouth is less constant and less active. The subcutaneous injection has been used in numerous tests made upon guinea pigs, dogs and rabbits, and in all cases after an injection there is first a moderate increase in the number of leucocytes for a short period of time, then a rapid decrease sets in, as I have told you before, and the count remains fewer in number for a considerable time. If the doses are not too large, the animals do not show any other remarkable symptoms. If the dosage is strong the falling off in number of leucocytes is very rapid and may disappear entirely from the circulation and the animals may die under symptoms of great weakness.

**Experiments Made in Vienna.**—A dog weighing 17 kg., after an injection of 250 mache units, showed an increase of a number of leucocytes from 12,000 to 15,000, then a rapid decrease in the white cells followed. At the end of seventeen days the count registered 400 leucocytes.

Another dog weighing 7 kg., after an injection of 2,300 mache units, showed a rapid decrease of leucocytes and subsequently the entire elimination of the white cells from the circulation. Inspection of a number of blood specimens in this case did not show a single leucocyte. The temperature continued to rise to a very high degree. The animal was killed. The spleen was found to be small, tough and numerous hemorrhages had taken place in the ascending colon. Microscopic sections showed that the pulp of the spleen had disappeared, the follicles were close together, damaged and hyaline changes of all the walls of the vessels were found. These experiments have demonstrated the elective effect upon the leucocytic apparatus by thorium x and that a certain small dosage produces no injurious influence upon the organism and again that large doses are destructive and entirely eliminate the origin of leucocyte.

Dr. Falta, after experimenting on the animals, demonstrated the influence of thorium x upon himself and the internes and then upon patients suffering with cancer, in doses increasing up to 500 mache units. These tests showed no serious results, but decreased the leucocytosis.

**Clinical Cases No. 1.**—A man, 43 years of age, suffering with lymphatic leukaemia combined with

trachoma. The leukaemia was in existence since 1909. The patient was subjected to treatment in January, 1911, to the x-ray by Prof. Holzknecht, which always in the beginning diminished the number of leucocytes. In intermediate periods the leucocytes always increased in number up to 100,000 to 300,000. During the last month of that form of treatment no diminishing of the leucocytes took place. The count varying between 250,000 and 300,000. A month later the increase had registered 1,000,000 leucocytes. At this figure the patient came into Prof. Falta's hands. The diagnosis showed the most severe lymphatic leukaemia. The spleen reached above the curvature of the ribs the distance of the width of the three fingers. Large glands were found. Infiltration of the mucous membrane. Immediately after the first treatment of thorium x the count of leucocytes went up to 1,700,000 in several days. Then a rapid falling off in the number of leucocytes took place down to 20,000. All the subjective symptoms of the patient improved and gave no serious anxiety. In the course of three days an increase took place to 180,000 leucocytes to go down again under renewed injections to remain stationary at less than 100,000. The spleen diminished in size and later on it was not palpable. The lymphatic glands became smaller.

**No. 2.**—A woman, 52 years of age, lymphatic leukaemia. Blood count 300,000 leucocytes, 97% of these were lymphocytes. Placed under x-ray treatment. After four of these treatments the leucocytic count decreased to 147,000. The spleen diminished in size. Patient feeling better. An average increase of leucocytes took place in this case and when the thorium x treatment was begun she had 650,000 leucocytes, with 95% lymphocytes. The spleen reached to the symphysis, the liver was enlarged, the abdomen swollen, suffered from severe pain and difficult respiration. Under the treatment with increasing doses of thorium x, beginning with 50,000 mache units up to 1,000,000 mache units, in intervals of from two to three days, the number of leucocytes decreased in the course of 26 days to 200,000, 86% of lymphocytes in the blood. The number of erythrocytes increased from 2,500,000 to 3,500,000. The spleen and liver had been much reduced in size, no pain, feels well and does a large part of her housework. From a number of records of Prof. Falta's work we find histories like those which I have given you. In a lecture, Prof. Falta called attention to a favorable relation between the influence of the x-rays and that of thorium x. If one should not be used successfully use the other as an adjuvant. I had the pleasure of seeing a number of cases of the chronic effusive types of rheumatism treated by thorium x and some with marked success. A great deal has been said in the public prints recently about the use of thorium x in the treatment of anaemia and leukaemia and the public, as you know, is watching with interest the outcome of several cases in America under treatment by foreign physicians.

The chief object of my dealing with this subject is to excite the interest of my hearers in undertaking this work. It is not difficult, it is not surrounded by dangers of any kind, it is not an expensive form of treatment and a physician with clinical experience can accomplish much in a therapeutic way by undertaking it. This work is not altogether new to me. My confrere, Dr. Bailey and myself have been working with the products of thorium and radium since the announcement of its discovery by Madam Curie in 1908 and we have demonstrated that thorium and radium in combination with constructive elements positively influence blood values.



## THE INJURIOUS EFFECTS OF CIGARETTE SMOKING ON BOYS.

F. H. BARNES, M. D.,

SUPT. OF DR. BARNES SANITARIUM.  
Stamford, Conn.

At no time in the history of this country has the smoking of cigarettes been so common a practice among growing boys as to-day. At no other period have conditions in this land been so strenuous as at present. The strife for professional and mercantile success has necessarily become stronger and stronger during the development of this great republic.

The parents of our boys have had to go through a period of industrial development during the past fifteen to twenty years, which has never been reached or surpassed by any other country. With business or failure comes great mental strain and no matter how much we try to dodge the issue, such conditions predispose to nerve strain in the individual and by virtue of heredity so acquired many boys have a nervous inheritance which can be only combatted by the most simple life and hygienic surroundings. In our schools the strife for high honors, the necessity of study and application to keep up to grade, has its effect in demanding a certain amount of the reserve mental force of every boy at the school age. There is always a natural demand on the energy of each boy which must be met if they are to start life on a firm foundation for future usefulness.

Between the ages of ten and eighteen boys pass through the period of greatest physical development. The bony framework enlarges and becomes more compact, the muscles round out, weight increases and the body begins to show the first signs of oncoming manhood. This is the time when one must be most careful if he is to develop into a strong vigorous man. During this period of greatest development one has no right to do anything which will prevent the best use of his physical and mental powers. Whatever hurts the body certainly has its influence on the brain and if dissipation of any kind is carried on, the body as a whole must suffer.

Habits which have a depressing influence should be shunned by the growing lad. Bad habits make their lasting impression at this age and it often takes years to get rid of the effects of wrongdoing during the period when nature makes her greatest demand on the physical side. If a boy would realize that he has no right to smoke or use tobacco before he is twenty, especially cigarettes, the problem would easily be solved. Unfortunately, the example of elders is generally followed and boys think they will become men faster if they rise to that estate through the medium of smoke wreaths.

Tobacco if used to excess has a depressing influence on the heart and on the central nervous system of the full-grown man, to say nothing of a boy. Many times we hear men say, "I must give up tobacco, it does me harm and I cannot keep well and use it. If it has such a depressing effect on strong men, how much worse will it injure a growing boy. The tobacco heart, so called, is a common thing among inveterate smokers. Imagine youngsters, just past the cradle age, trifling with such a powerful agent.

I quote from experienced medical men who have made the cigarette habit a study. Goodno says, "Cigarette smoking is a frequent cause of nervous disease." Snader, in examination of the hearts of thirty-two tobacco smokers, between the ages of seventeen and thirty-two (all having started the habit during their childhood), found that in all cases tobacco increased

the action of the heart and diminished its force. Townsend states from his experience and observation, that the use of tobacco in early life exerts inhibitory influence. He also says that it acts as a great irritant to the mucous membrane of the nose and throat and that cigarette smoking is especially deleterious because most cigarette smokers inhale, and in this manner the poisonous principles reach a much larger absorbing area. Kraft-Ebbing says that the excessive use of tobacco may induce mental disease just as it produces nervous disease. Sir William Osler speaks of the irritable heart of smokers seen particularly in young lads, the symptoms of which are palpitation, irregularity and rapid action. The American Text-Book of Physiology states that tobacco acts profoundly on the protoplasm of the nerve, increasing its excitability, thus gradually destroying its function. Kerr states that tobacco in excess is a fertile cause of heart trouble, of dyspepsia, debility, loss of vision, etc., but it is widely different in action from alcohol and the other intoxicants which have been under consideration.

No husbands are charged with killing their wives or assaulting their children through tobacco's excessive use, no acts of violence are laid to its charge. Nor does it seem to give rise to mental and moral perversion as does alcohol; yet tobacco has a powerful influence on the nervous system, and I have known of a case of an abstainer with an inebriate heredity, who trembled like a man with delirium tremens every morning till he smoked a pipeful of tobacco. It is beyond my province in this paper to treat of this substance except in its relation to inebriety; but I may be pardoned, in these days of the cigarettes of precocious childhood, for adding that tobacco is a poison, the general avoidance of which in all its forms would greatly contribute to the health and strength of the present as well as the coming race. Barr in his work on the Mental Defective does not believe tobacco, especially in the form of cigarettes, a cause for idiocy or imbecility, but he makes this statement: "I have no doubt that excessive indulgence in this or any other vice causing over-stimulation and subsequent enervation, may be conducive to the arousing of latent neuroses, just as does over-pressure during the school period. In this sense both without being actual, would certainly prove predisposing causes."

We all have seen cases of retarded development, both physical and mental, due to excessive cigarette smoking. It is a well-known fact that opium takers, morphin habitues and inebriates smoke large numbers of cigarettes daily. It is a singular coincidence that wherever you find degeneracy you will find this habit predominating. I have recently heard of a prominent physician who firmly believed that his lack of physical stature was due to the inordinate use of tobacco as a boy. Many boys are said to be very unreliable and untruthful as an apparent result of this habit. A case came under my observation recently of a young boy who said he was smoking from thirty to forty cigarettes daily. He wanted to stop their use, but found it impossible, said that he was losing weight and appetite, that he slept poorly at night, daily felt weaker and had headaches most of the time.

A well-known dentist says, cigarette smoking has a detrimental action on the teeth, coloring and staining them so that the enamel remains permanently discolored and that he believes sooner or later the integrity of the whole tooth becomes affected and causes it to decay. One cannot well imagine a worse sight than a young boy with fingers yellow from nicotine, yellow teeth, cheeks pale and sunken, oblivious of the fact that



he is sapping away his life's blood by indulging in a habit which can only do him harm and which permanently unfits him for a useful life. Some aspiring athletes smoke cigarettes. The great anxiety of these boys is to outrun, outbox, outjump or outwrestle other boys in competition and yet they do the very thing which is most apt to defeat the end in view. Athletic exercises, as a rule, are likely to cause heart strain if not carried out under the careful guidance of experienced men. I cannot imagine an athletic director advising one to smoke cigarettes. The common belief among trainers is that smoking shortens the wind and slows men up in competition. Those of the neurotic type are very susceptible to the ill effects of this form of dissipation. It would be natural to expect a psychosis to develop more quickly as a result of the lowered resistive power resulting from smoking. It is far the safer plan for growing boys to abstain entirely from the use of tobacco or stimulants until they reach maturity and in many cases it would be far better if the total abstinence were made permanent.

#### THE DETECTION AND TREATMENT OF THE NEUROLOGICAL PHENOMENA PRECEDING ARTERIOSCLEROSIS.

TOM A. WILLIAMS, M. B., C. M., EDIN.,

CORRESPONDING MEMBER OF THE SOCIETIES OF NEUROLOGY AND PSYCHOLOGY OF PARIS. NEUROLOGIST TO EPIPHANY

FREE DISPENSARY.

Washington, D. C.

It has been said that the recognizable symptoms of arteriosclerosis show themselves only when the disease can no longer be detected; but it would be more accurate to say they are not usually diagnosed until too late for a return to normal; for by their effects on the nervous system, both central and peripheral, the toxic and circulatory disturbances which precede sclerosis of the blood vessels are often manifest long before there is definite hardening of the vessel walls or much elevation of the vascular tension. The condition of the patient is then easily remediable; but it often, unfortunately, escapes the physician on account of a too ready diagnosis of neurasthenia or hysteria, for which rest, anodynes, or psychotherapy are prescribed without an attempt to reach the real cause of ill-health.

Again, there is an all too common tendency, when one finds the blood pressure above 120 in the middle aged, to minimize its significance, especially if other disease is present, in the belief that such elevation, because not uncommon, is a norm. Hence proper treatment is neglected, and a valuable opportunity lost.

It has been my good fortune to encounter several cases of these kinds; so in the hope that they may be instructive to my colleagues, I here note a few.

#### Hypertension in a Cyclothymic who was Amenable to Psychic Influences.

A frequent cause of the error of interpreting as psychogenetic those cerebral symptoms due to chronic vascular disorder is their frequent amenability to psychotherapy for a time at least. A depression or a vagary often disappears for a time as a result of the stimulus of medical exhortation. That his therapeutic success is not uniform in a particular case is apt to be attributed by the physician to his own lack of psychotherapeutic skill; so that he continues to persist in his erroneous diagnosis in spite of the failure of what he believes to be correct treatment.

Illustration of the liability to this error on the part of friends and even of the physician is the case of a well-known financier referred to me by Dr. Z. Sowers.

In this case, severe periodic attacks of depression during the whole life of the patient and their resemblance to melancholia masked the diagnosis. For instance, the patient believed that all his friends knew that he was "down and out," he had ideas of reference regarding his financial affairs, and he thought he would leave his family in poverty, and ideas of self-depreciation about his ability and acts made him miserable. On examination, I found the speech slow and slurring, reflexes normal, the heart beat was heavy, slow, and the second beat was accentuated. The systolic blood pressure was 190 and the diastolic 130. The urine was normal. I found that his consumption of protein was most excessive; but he had ceased smoking some weeks before.

With appropriate treatment, the systolic blood pressure became 157 and the diastolic 85. He recommenced business, became cheerful and perhaps even too optimistic.

Although certainly of cyclothymic constitution, this patient had his condition much aggravated by the excess of pressor substances in his blood, formation of which was soon prevented by proper diet, which he had never been given during numerous peregrinations to various health resorts.

#### A Case of Inadequate Treatment.

An illustration of the need of more radical treatment in some cases is the case of a Congressman, aged 57, referred, March 19th, 1912, to me by a well-known Washington physician. His complaint was dizziness and trembling on walking. However, these symptoms had first occurred on his graduation, and again fifteen years before I saw him. On each occasion he recovered by means of physical labor on a farm. They had occurred from time to time since. Being advised that they might be due to an error of refraction, he saw Dr. Wilmer, who gave him prism exercises, without benefit. The vertigo so alarmed him that latterly he never went out unaccompanied.

Intercostal neuralgia had troubled him, especially when tired; and troublesome constipation caused him to take purgatives daily. The physician who sent him to me had recommended a course of baths; but these did not remove the symptoms, which, however, were always relieved by a hot bath and by whisky. He was a very hearty eater and an excessive smoker.

Examination revealed only some exaggeration of the deep reflexes and failure of the right plantar, abdominal and cremasteric cutaneous reflexes. The motility was normal except for a slight lack of firmness in the gait. Sensibility was normal, and the pupils reacted and converged well. The heart sounds were clear, the second being somewhat accentuated. The systolic blood pressure, which a year before had been 190, had been reduced under the care of the physician who referred him to 160 when I examined him. He exuded an unpleasant odor of sour tobacco.

Physically, he felt dull as a rule, but worried much and felt very restless at times, especially after exertion. The diagnosis was toxicotic hypertension. The prognosis was good.

The treatment consisted of the limitation of tobacco to three cigars a day, cure of the constipation by special diet, removal of the toxic condition by this special diet, aided by a course of baths to favor cutaneous action, and exercise in moderation to increase metabolism. As a result, by April 18th the systolic blood pressure was 130, and he was rarely dizzy. A favorable result, however, caused him to exceed dietetically once or twice, so by April 25th he had suffered several dizzy attacks.

The blood pressure, however, was only 124 that day when the instructions were emphasized; so that by June 2d, with blood pressure 122, there had been no vertigo. On June 23d (blood pressure 124) constipation induced vertigo again, and it occurred once more on July 17th as a result of over smoking; blood pressure was only 120 when I saw him.

His complexion had improved, his eye become clearer, the accentuation of the second cardiac sound had disappeared, and he was able to perform his duties like a normal person and continues well since, thanks to an intelligent and earnest wife who sees to his diet.

*Exactng Too Much of a Patient.*—One hears of complaints of patients that a regime is a greater trouble than their disease. Many doctors complain, too, that patients will not follow instructions. The fact that these difficulties have not troubled me I attribute to the practice of utilizing the co-operation of the patient in planning the regime. He then becomes interested in carrying out that which he believes is his own arrangement and has a certain pride in doing well. In one of my cases this attitude of mind caused the patient to believe that I had played no part in his cure, and hence to be much offended when remuneration was demanded. The art which conceals art, while medically invaluable, left something to be desired in this case.

In treatment, it is not the hypertension itself which should be attacked, and least of all by depressor drugs such as nitrites. The *hypertension is merely an effect*; and it is doubtful if even high frequency currents do more than neutralize this. The method of choice is to *attack the cause*, which is a toxicosis. My experience shows that this can usually be prevented by a *low protein diet* (Chittenden standard) alone, when *sufficient carbohydrate and saline food* is given. It does not appear that cases unamenable to these measures are considerably benefited by any others. But I am speaking only of cases without nephritis; for to these my experience is confined. In these I believe that the optimum pressure is lower than that with which the physician is usually content. It of course must be measured by the patient's functional efficiency.

#### **Hypertension in a Tabetic Removal of Lightning Pains by Detoxication which Lowered the Tension.**

(Reported to Philadelphia Neurolog. Soc.)

A most instructive case was one in which, although syphilis of thirty years' standing had produced the lightning pains of tabes for eleven years, yet no relief had been obtained by thorough specific treatment. The patient had visited Hot Springs on nine different occasions, and had several inunction courses without benefit. He had taken as much as 450 grains of potassium iodide per day for weeks at a time, and recently had been given salvarsan in New York, which only aggravated the pains; so that for a month he had been unable to work and had not slept without narcotics. There had been doubts concerning the diagnosis.

There had been no disorder of miction, no visceral crises, unless a rectal ache upon two occasions was such. There had been no girdle sensation nor numbness, nor irritation of the nerves of special sense, no vertigo, nor nausea except what was provoked by medicines. There had been no diminution or excess of libido, nor any irritability of temper, and his general health had remained good in spite of the intensity of the pains. These occurred in crises, sometimes at an interval of months, sometimes as many as a hundred times a day.

He had never dissipated. The motility was normal, there being no trace of inco-ordination. The achilles reflexes were absent; the patellar needed reinforcement:

the bulbo cavernosus was absent on the right, and diminished on the left. The abdominal were active. Of the plantar reflexes, the left showed the normal flexion as did the smaller toes of the right foot, but the right great toe extended slightly on stroking the sole.

The pupils reacted fully to light, especially the left, which was oblate superiorly.

The Wassermann reaction was negative. The cerebro-spinal fluid contained 3.5 white cells per c. m. Of these, 70 per cent. were lymphocytes, 29 per cent. large mononuclears, half per cent. were endothelial cells, and of the remainder none were plasma cells. The protein content was very slightly increased.

The systolic blood pressure was 170, the diastolic 95. The pressure was raised by pain and tenderness at once.

Without going into detail, two conditions were present in my opinion: one was tabes dorsalis of form fruste; the other was vascular hypertension. I reasoned that the toxicosis which elevated the blood pressure probably also aggravated the old lesions of the posterior spinal roots and helped to produce the lightning pains. I did not believe that an active luetic radiculitis could be present then without a lymphocytosis greater than the  $3\frac{1}{2}$  per c. m., which was all that we found. Besides, the clinical sign of delayed and aggravated sensibility to deep pain is one characteristic of an inflammation of nerve of toxic etiology, although it is unusual at least to find a delay so long as three seconds. In this case, the length of the delay might be attributed to the remains of the chronic radiculitis, specific in type. The treatment employed was diminution of the proteins to the Chittenden standard, 50 grams per day, and an abundance of saline and carbohydrates in the diet; the cessation of tobacco, alcohol and coffee; a daily sweat bath, followed by douches and massage; 30 grains of aspirin three times a day for three weeks. The pains began to diminish. On May 20th, the blood pressure was systolic 170, diastolic 120, a temporary rise not accounted for. June 1st, systolic 154, diastolic 95. Only one day of pain necessitating codeine had occurred up to this. June 8th, blood pressure was systolic 150, diastolic 100. Blood pressure now is systolic 170, diastolic 120. He weighs 206 pounds—that is a loss of 11 pounds—and feels perfectly well. The patient relapsed in November through failure to maintain a succulent diet. On this occasion compensation was less easy, but is now occurring.

#### **Dietetic Directions for the Patient.**

(Modified according to the case.)

Abstain from meat juices (gravy and soup), gelatine, tea, coffee, cocoa, salt and strong condiments, alcohol, pastry, tobacco.

Take abundantly succulent vegetables, sweet fruits, cereals, fats. Take sparingly meat, fish, eggs, cheese, milk, nuts, peas and beans.

#### **MODEL MEALS.**

While dressing 5-10 oz. of hot water containing 5-10 grn. of sodium bicarbonate. After at least half an hour, breakfast of a large plate of fruit and milk or cream, followed by abundant cereal and milk with bread and butter. No meat, eggs or fish. Wait five hours.

Dinner, not more than four ounces of meat or fish, which must be quite fresh, a *very large plate of green vegetables*, potatoes sparingly, and preferably nothing more than perhaps a taste of sweets.

The evening meal, five hours later, may be a repetition of the breakfast; but for it succulent vegetables may replace the fruit, and macaroni or a similar dish may be substituted for the cereal.



Thirst and hunger between while may be satisfied by water and fruit about one hour before a meal or during the night.

#### Distinction of Organic from Functional Symptoms.

In appraising the cerebral symptoms, one of the difficulties, and a frequent source of error, is the distinction between symptoms and signs due to the effects of actual sclerosis of the vessels, and the symptoms and signs of the conditions which favor sclerosis, including the causes which produce hypertension within the vessels. A means of distinguishing between these two groups is afforded by the comparison of symptoms during and between periods of high blood pressure. The case of the Congressman just described clearly showed that his symptoms were not accounted for by sclerosis of vessels, for they disappeared when detoxication was produced by treatment. Furthermore, any considerable degree of sclerosis of vessels supplying the central nervous system leads to loss of function of a portion of the white and gray matter, usually ascertainable clinically by quantitative methods of examination of the reflexes, cerebellar function, motility, sensibility, intelligence and affectivity.

1705 N Street.

#### MEDICAL SERVICE IN THE FIELD.

HOWARD CLARKE, M. D.,

FIRST LIEUTENANT MEDICAL CORPS, UNITED STATES ARMY,

Manila, P. I.

With threats of war from near and distant nations it may be well to remember that the small army of the United States will in time of war need a great many surgeons in addition to those of the Medical Reserve Corps, to safeguard the rapidly augmented ranks from the ravages of disease and pestilence. It may not be amiss therefore to review in a way some of the ordinary duties of a medical officer with troops.

Of course at a post the army doctor is physician, surgeon and specialist, as is his civilian brother. In addition to this he manages a hospital, small or large, according to post, and sits on courts martial or other boards, as do all officers of the army.

Uncle Sam takes good care of his boys and does all he can to help them bear their hardships. Almost as soon as he is sworn in to service the recruit is vaccinated against smallpox and typhoid and thorough records taken in case of future need of identification. Before starting on a hike the men have listened to monthly lectures by medical officers on personal and general hygiene, camp sanitation, prevention of venereal diseases and similar subjects.

The utmost care is exercised to see the men start out with proper fitting shoes. It is not sufficient to merely warn men to get shoes big enough; an officer is present with each company to witness the fitting of every shoe. He sees that the sole is long enough to prevent the toes crowding against the end and wide enough to allow for spreading and yet that the arch is supported by the shoe.

It is important to remember that each man carries almost fifty pounds and the foot spreads under such weight, so that the shoe which does best for parades is not the one for hikes.

No toothpicks nor other fashionable monstrosities are permitted and whereas the man's choice is heeded, he is by no means allowed to choose tight or otherwise ill-fitting footwear. Each man has a second pair of shoes carried on the company wagon.

The shoe is so important to foot soldiers that a number of sore feet is a black mark against company officers.

Recently a board completed an exhaustive research and, after examining thousands of soldiers' feet, with and without pack, and using the x-rays, accepted a shoe model built on scientific lines. It is impossible to construct a shoe which will fit all feet, but it is possible to make one on sensible lines to which all feet will accustom themselves more quickly than the unsightly toothpick, *et al.*, to which so many have become used. The sock is also looked after carefully to avoid its being too short, a sure cause of ingrowing toenail, or too large which allows wrinkles and therefore blisters. Nor are there any "silk stocking" hikers. A light wool sock is best and most comfortable. It absorbs moisture and gives sufficient pad to prevent the rubbing soreness which all light or flimsy material causes at the foot's base.

Despite all the precautions taken the first few days of a hike are bound to find some severely blistered and otherwise tortured feet. Ordinarily there is but one ambulance following a regiment of more than a thousand men. Manifestly it is impossible for such limited transportation to carry all who feel the need or even those who might be benefitted. The ambulance is primarily for the severely injured or exhausted and great care is needed to avoid its misuse. Furthermore it is not fair to the brave boys who are showing their grit by "sticking it out" to let some weakling who lacks nerve ride because he puts up a piteous wail.

This may seem harsh but necessity demands soldiers to be able to take strong measures gracefully. As a matter of fact most injuries save sprained ankles, synovitis and broken arches get better by continued marching and these exceptions should not have too much care or coddling lest the disease prove epidemic.

To the credit of the soldier must be put his aversion to in any way "beating it" and the surgeon will find that the greatest deterrent to faking is the man's own companions. When a regiment reaches a camp site, the senior surgeon investigates the water supply and scheme for rears and disposal of kitchen wastes. The hospital tent also has to be pitched and supplies made ready for sick call, which is blown after the men have had a short rest. This call, to which the soldiers have put the following words,

"Come and get your pills and your quinine!

Oh, come get your pills and your quinine!"

is an important function. One of the junior surgeons usually presides and the first thing to consider in every case appearing is its disposition. It may seem like putting the horse behind the cart, but actually it is most important for the machinery of management to be least impaired. Each company sends a book with names of its patients thereon and after each name is marked "hospital" or "duty" by the surgeon so that in the shortest time the commander may know how many fit men he has at all times. Of course no difficult diagnosis could be made in such limited time but for these we make the patient wait till immediately after the books are gone and can then spend all the time desired.

It is impossible to carry a large armamentarium in the field, nor is it necessary to do so. In war time or with very large bodies of troops, field hospitals follow at a safe distance and take over the extremely sick from the regiments; in peace or with small bodies, those cases not likely to recover in a few days are put on a train and sent back to post hospitals or put in the nearest civil hospital.

The physician who feels that he cannot practice medicine without a large collection of drugs and pharmacopœial preparations is lost in active military service. We carry the essentials as compound cathartic pills,



camphor and opium pills, quinine, morphine, strychnine, castor oil, and epsom salts. Of course there are other remedies, but these few can be used for a great many more diseases than we ever encounter.

The surgeon makes a sanitary inspection of the camp every day, and also upon leaving, to see that no rubbish remains. Any sanitary defects are reported in writing to the commanding officer, who will see that they are rectified.

The government ration is furnished in ample quantity for any person's well being. The life in the open creates a tremendous appetite and sometimes men think themselves short rationed without cause. No other army lives half as well as ours. The meat component has to be watched and it is interesting to note the large quantities of beef marching men can eat with safety. However, the same amount, if the men are allowed to remain any time inactive in camp, will soon give them intestinal trouble, fever and digestive disturbances.

Kitchen wastes are ordinarily, for one night's stands, dumped into pits near the kitchens and carefully covered with earth upon departing. For longer stays a shallow, inclined trench is filled even with rocks and a wood fire built over it. The solid matter is burnt by the fire and the liquid material poured in the shallow end of the trench evaporates upon contact with the hot stones.

For latrines or rears on one or two days' camp, shallow trenches are dug, across which men stand and cover their deposits with the fresh earth heaped up along the sides. Longer stays have narrow but deeper trenches with wood box covers. Each morning early a little straw and crude oil burn out the larvæ and keep it clean and free from flies. The urine passes into the trench from a trough covered daily with lime.

At some permanent camps a great deal of ingenuity and expense have been utilized on mechanical incinerators. These seem simple, being merely a double steel boiler with wooden seats. The material strikes the pan of steel which has a fire beneath it and is thus cremated. Actually they are very clumsy, expensive and not practicable for transportation, require much care and smell offensively. Those in use last summer at Sparta, Wis., maneuvers were far from satisfactory. They were often burnt out at most inconvenient hours, due to inability to hire men to work at night, which made the seats too hot.

As to venereal diseases, Kipling says, "Single men in barracks don't grow into plaster saints," and naturally we have a fair proportion of venereal diseases. But that there is any higher percentage in the army than among any equal number of men in like station, as in a big mill or railroad shop, is not probable. In the army, weekly examinations are made of all soldiers and a record is kept of every case of venereal disease and its treatment. Acute cases are kept in hospital and all are restricted to post limits until recovery. It is really remarkable what splendid results can be obtained by the early discovery of an acute gonorrhea case. The patient is put to bed promptly on very limited, almost liquid, diet, and kept there till all signs of discharge have disappeared for at least three days. An anterior irrigation of some mild antiseptic can be used once or twice a day, but the interesting feature is the great absence of complications which so often follow the walking case. Another important detail which reminds the soldier that if he "can't be good, to be at least careful," is stopping his pay during his stay in hospital for such illness. Prevention of venereal diseases is important and lectures are given monthly to the men by medical officers. On the march we fortunately have very little trouble with these diseases.

These hikes are designed not merely to harden the men or test their endurance but for purposes of education. Both officers and men learn the art of war on these marches as practically as it can be taught in time of peace. Problems are set which require the distribution of troops in their tactical solution and the medical department takes an active part in these operations. Great maneuvers as well as small evolutions are worked out and are not considered solved until the policing of the battlefield with evacuation of the wounded has been completed. If one bears in mind that the great battle of Chickamauga, for instance, left nine thousand wounded to be sheltered, fed, transported to safety as well as to operating conveniences, it will be seen that important duties exist for the army surgeon beyond purely professional care. Those who feel this "baggage transfer" of patients uninteresting, should be reminded that none save a medical man can tell which cases most need transportation, which are hopeless, and which should be returned to the fight and not allowed to make small wounds an excuse for shirking.

To be of use, military knowledge of tactical dispositions and how to take advantage of terrain is indispensable. This study is as interesting as chess or any other great game to those who take the pains to learn it. The knowledge gained enables the military surgeon to administer the greatest good to the greatest number, a consummation devoutly to be wished and impossible to accomplish, if we were not constantly practicing in time of peace what we hope to be able to do in time of war.

#### THE TYPHOID OUTBREAK AT HARTFORD, CONN.

W. H. MORSE, M. D.,  
Hartford, Conn.

In mid-autumn, 1912, Hartford was visited by an outbreak of typhoid with features both peculiar and remarkable. On the evening of October 8 a Swedish wedding took place, followed by a largely attended banquet and dance. The people were of the well-to-do class, and the repast was prepared and served by those who were accustomed to use skill and care.

A fortnight later typhoid began to manifest itself among the guests, and finally there were more than twenty persons affected. They had a typical typhoid, of varying degrees of severity. The larger number of the patients were young, and there were more women than men. Two of the patients were middle-aged women, and they were the only ones who died. In most cases convalescence was protracted.

Immediately upon the appearance of the outbreak the question of etiology was advanced. It seemed evident that the causal factor had to do with the wedding supper, and the menu card was put in evidence. Thereupon a brief was given for two indictments. Suspicion was furnished by a celery salad and a fruit punch. The punch was cooled with ice which had been purchased from a street vendor, and the celery was obtained from a market gardener. In considering the case against the ice, it was found that those who drank moderately and early did not develop typhoid. Those who partook frequently and later were taken ill. Corollary to this was the fact that the patients told of dancing until quite fatigued before drinking to any considerable extent, and added that those who drank while unfatigued, or without having danced, did not develop the disease.

The ice was sold by a licensed vendor, and there was no reason to suspect that it was impure. The city board of health exercises thorough supervision, and the

ice supply had not been reproached. The possibility was not, however, remote. There is no reason for doubting the factorship.

The use of ice from polluted sources is a rational cause of alarm, although it is demonstrable that freezing destroys a large percentage of the bacilli, and epidemiological evidence is sparse. At Rye Beach, N. H., some years ago, an epidemic occurred which was attributed to the use of ice from a condemned pond. At a hospital in Ogdensburg, N. Y., there was an outbreak with eight cases, and upon investigation it was found that the ice used in the institution was taken from an icehouse where the packing was encrusted with filth from which typhoid bacilli were isolated. In Lexington, Va., about six years ago, there was a similar outbreak traced to the use of artificial ice made from the water of a spring defiled with typhoid excreta. These reports, in such small number, yet with bacteriological evidence, are not strong in epidemiological findings, but indicate unmistakably that the presence of typhoid bacilli in ice may cause the disease.

As for sewage-polluted ice being a factor there is no reliable evidence. If pollution by sewage in ice causes typhoid, New York should have frequent epidemics, as so much of the ice supply comes from a source "markedly contaminated." If, however, the ice pollution is from the excreta of typhoid patients, the chances are good for the disease. At the same time, we do not want ice from questionable sources, and supervision of the bodies of water from which ice is cut, lessens the possibility. Ice taken from an unpolluted field can never cause typhoid, and a condemned pond—condemned by typhoid on its water-shed—has no right to yield ice for any purpose. The fact remains, however, that the vendor in Hartford had sold from the same stock for some time, and without disease manifestations from the ice.

As to the celery causing typhoid or any other disease, it only remains to place emphasis on the absurdity of the charge. As to its being a carrier of the disease, it is enough to say that it is not guilty unless disease germs are conveyed to it by patients. A dozen years ago an outbreak, with forty-nine cases, occurred in a Massachusetts insane asylum after celery was served. Inquiry elicited the fact that there had been a case in the asylum some time before, and that subsequently the celery bed had received the institution's sewage. The deduction was that the vegetable was the carrier of the disease; but it should be noted that it was not made into a salad, but was eaten raw, and in some cases in the garden, direct as pulled from the bed. At that time it was said—and the allegation is undoubted—that it is a common thing for gardeners to fertilize celery ground with sewage and night soil, in which the vegetable grows, and with which it is banked. "And," the plea was made, "why does not this always cause the disease when the practice is so common?"

The indictments stood thus. The verdict was like that of a French court—"Not proved, but not disproved!" The consensus of opinion crystallized in the statement that ice from a field where the watershed had typhoid is not wanted, and that celery fertilized with and banked by sewage or night-soiled earth is as unwelcome. This deduction imposes that it is a duty to provide by law an inspection of ice-fields, and a prohibition of the use of sewage and night soil in the culture of celery, lettuce, cress, or other vegetables which may carry disease germs. Meantime it is incumbent upon all to exercise care in the use of ice in beverages, and to treat celery and lettuce to a disinfecting process.

## PREVENTIVE THERAPEUTICS WITH RELATION TO THE TONSILLAR RING.

C. EVERETT FIELD, M. D.,  
New York.

The lymphoid tissues which combined form what is termed the tonsillar ring, consist of the lateral masses lying between the faucial pillars, the lymphatic structure of the naso-pharynx and the lingual tonsil situated at the base of the tongue. Their structure, intensely vascular, is made up of lymphoid and connective tissue with a surface of mucous membrane covered with stratified pavement epithelium. There are numerous indentations or crypts (follicles) which play an important part, their function being to receive and destroy bacteria by means of the phagocytes which are there found in large numbers.

When one considers the multitude of pathogenic bacteria brought in contact with these tissues, and their functions as safeguards, he can appreciate full well the value of this "first line of defense against disease." When the tissues of the tonsillar ring are normal their guard against systemic infection is well nigh perfect; however, when the vitality becomes weakened through any cause, local congestion, inflammation and catarrhal conditions, become common and the epithelial cells within the crypts break down, giving ready access into the lymphatic and general circulation of disease-producing microorganisms which may be carried to far distant points. It is an established fact that a very large proportion of infectious diseases are contracted in this manner. The entrance of the tubercle bacilli to its favorite region—the cervical glands—and to the apex of the lung is by this route. Together with the tubercle bacilli we find the streptococci, staphylococci, pneumococci and the Klebs Loeffler bacilli commonly crowded within the lacunæ of the tonsils.

Inflammation, whether acute or chronic, affecting the tonsils, is fraught with danger. With the first stage of congestion comes a venous engorgement. Glandular secretion and excretion are interfered with, the normal function of the lacunæ is suspended and the membrane becomes red and dry. Thus has the soil been prepared for a general infection.

While the disease is still a local disturbance the treatment should consist of those measures which will promptly increase local circulation, both lymphatic and vascular, thus giving aid to natural processes of elimination. Frequent hot applications materially aid. Alkaline antiseptics of definite hygroscopic action are particularly indicated. It must be our effort to relieve the membrane and follicles of their penned up toxins, and for this purpose we "purge the tissues." At the same time we give effective relief to the troublesome symptoms and inhibit the further propagation of pathogenic bacteria.

When we find the chronically enlarged or hypertrophied tonsil, the active depleting treatments will sometimes yield good results, but more often we are called upon to give surgical aid, either by trimming or removal. No matter how simple the operation one must be prepared for hemorrhage.

The tonsillar ring, serving then so important a place in the welfare of the human, should receive careful attention in health as well as disease, because the prevention of disease is the most important mission of the present day physician. To this end the nose, mouth and teeth should be examined from time to time and the patient instructed in those simple methods of hygiene which insures a healthy oral cavity.



**SANITARY ADVICE FOR SUMMER TOURISTS**

W. C. RUCKER, M. D.,

ASSISTANT SURGEON GENERAL U. S. PUBLIC HEALTH SERVICE.  
Washington, D. C.

Ordinarily the questions which are asked when one is seeking for such a place include the character of the food and beds, the extent and nature of the social life, the temperature of the air and the opportunities for bathing. All of these are important, but they are of secondary consideration as compared with the question of the healthfulness of the locality in which it is intended to spend the warm months. Therefore, in choosing a summer residence the first thing to have in mind is the sanitary environment in which this time is to be spent.

Every autumn there is a rise in the number of typhoid cases in the cities, and when this is investigated it is frequently found that they are simply cases which have been imported from the country. Persons have left the city in search of health, and, as they are accustomed to think that health may be obtained and maintained best in the country, they accept it without question as the place to get health.

Typhoid fever is a disease which summer tourists frequently contract; therefore it is always well to bear the avoidance of this disease in mind in choosing a summer residence. The germs of typhoid fever are carried from the sick to the well in water and food and by flies and the fingers. If one does not take into his system the discharges of another person having typhoid fever he does not get typhoid fever. At the present time typhoid fever is essentially a disease of the country, because in the country the opportunities for the transference of the germs of the disease from the sick to the well are greater than they are in the city. Therefore in the choice of a place to spend the summer one should inquire into the occurrence of typhoid fever in the community in which it is intended to stay, and one should determine the opportunities which exist there for the carrying of the germs of typhoid fever from the sick to the well visitor.

Since the germ is carried in the discharges of persons sick with typhoid fever, a careful inspection should be made of the facilities for disposing of human excrement. A place which has a surface privy to which the domestic animals and fowls have free access should not be chosen. Places which have a pit privy or a cesspool situated only a short distance from a well should be avoided. Places which take their drinking water from streams which receive the drainage of outhouses or from buildings should likewise be regarded with suspicion. Other things being equal, places having a water supply from artesian or deep-driven wells should be given the preference. Unscreened toilets, because of the flies which they breed, and because of the chances which these insects have to pick up the germs of typhoid fever therein and carry them to the boarder's food, are particularly dangerous. It is equally important that the house also be screened.

It has been shown in the foregoing paragraphs how the fly may carry the germs of typhoid fever from the toilet to the kitchen and there infect the food which people eat. There is another way in which it may infect food, and this is particularly important from the standpoint of the child. The source of the milk supply should always be investigated in choosing a place of summer residence, and if it is found, as is too frequently the case, to be from dirty, fly-infested stables, in which dirty cows are milked by dirty hands, it is best to give the place a wide berth.

Another insect to be avoided is the mosquito. It used to be thought that malaria was caused by night air, but nowadays it is known that the only bad thing about night air is the mosquito which it contains. This insect infects people with malaria by biting them and injecting the germ as it bites. Therefore when a place of summer residence is chosen it should not be an unscreened house, nor should it be in a swamp region, nor in a locality in which there are small pools of water well adapted to the breeding of mosquitoes.

**Scientific Disinfection.**

In recent years considerable interest has been taken by various scientific workers in the standardization of disinfectants, and an encouraging feature of this interest is to be found in the fact that instead of mere academic discussion it has been productive of much excellent laboratory research. It is necessary, however, to bear in mind in the selection of a disinfectant that the chemical purity of a substance may bear no relation to its value as a disinfectant. This value depends upon the sum of a number of chemical and physical conditions connected both with the disinfectant and the material to be disinfected. As a large number of modern disinfectants are taken from the aromatic series in which, even if it were serviceable, it is impossible to formulate a specification, it is absolutely necessary that a valid guarantee of efficiency should accompany each. This guarantee of efficiency must be an expression of the germicidal powers of the substance. The mistake is too often made of choosing an aromatic disinfectant simply on account of its fragrance without consideration of its germicidal properties, or it may be that cheapness influences the choice. No policy of selection could be more futile; a worthless article is dear at any price. There exists no longer any excuse for ignorance on the vital question of efficiency in disinfectants, nor for the puerile, and, it may be added, criminal practice of making the sole basis of selection a matter of cents. The tide of infection, although reduced in this country in recent years, has not been stemmed to that degree which our knowledge of the conditions warrants. None but efficient disinfectants should be used, and it should be seen that this efficiency is scientifically guaranteed, and that something more than a mere moral effect is required as the result of their application.

It is satisfactory to note that the federal authority administering the act controlling the manufacture and sale of disinfectants—the Insecticide Board of the Department of Agriculture—is displaying commendable vigilance in the matter, to judge from the many reports of suits published during the past few months. In this connection it may be interesting to record the fact that the Rideal-Walker Test has been officially adopted by the Insecticide Board in controlling the co-efficients claimed by manufacturers of disinfectants.

**Typhoid Calorie Diet.**

Dubois' "calorie diet" for typhoid patients consists of a quart of milk, nearly a pint of 20 per cent. cream, 3 to 6 ounces of lactose, two or three eggs, a couple of slices of toast and some butter. He says he obtains thereby between two and three thousand calories or heat units, double the amount which they received when upon a milk diet. He even suggests that much good may come from giving such patients boiled rice, oatmeal, mashed potato, cream of wheat, custard or ice cream.



## Current Orientation

### THE ARTIFICIAL PRODUCTION OF IMMUNITY FOR THE PREVENTION AND CURE OF DISEASE.

F. E. STEWART, PH. G., M. D.,  
Philadelphia.

(Continued from p. 116.)

#### THE PRODUCTION OF ARTIFICIAL IMMUNITY BY MEANS OF THE INJECTION OF KILLED BACTERIA AND BACTERIAL PRODUCTS.

As stated by Carmalt Jones, the aim of bacterial therapy is to stimulate the natural powers of recovery by means which are specific for each separate infection. Its application lies in the production of a condition of immunity for prophylactic and therapeutic purposes. Especially has it proved useful in stimulating those powers in chronic cases in which the natural mechanism has partially failed. To understand the principles on which bacterial therapy is based it is necessary to consider what occurs in cases of spontaneous recovery, since it is the artificial stimulation of the mechanism involved in that process which constitutes this branch of medical science.

**What Occurs in Spontaneous Recovery.**—A study of the phenomena which occur when a patient suffering from an infectious disease, as, for example, pneumonia, recovers without treatment is illustrative of Nature's method of producing immunity.

When the pneumococcus finds lodgment in the lung it rapidly multiplies, attacking the cellular lung structure and causing irritation and inflammation. Poisonous substances are also produced which aid in causing the grave conditions so well known in this disease.

After a few days a crisis occurs. The germs cease to grow, and die out, and the lung, no longer attacked by the virulent bacteria, begins to recover its functions. Furthermore, the bacteria from the sputum of the patient in this stage of the disease are non-virulent; that is, they will not reproduce the disease symptoms when injected into animals.

Here, then, we have a paradox; namely, the lung which in health could not resist the bacterial invasion, acquired, when diseased, the power to do so and to destroy the invading bacteria.

How can this be explained?

When the bacteria find their way into the organism and commence to grow, the first mode of resistance brought into antagonism with them consists of an increased leucocytosis or gathering of the white blood corpuscles at the site of infection. The fact that one of the properties of the leucocytes, and even some of the fixed cells of the body, is to ingest bacteria was demonstrated by Metchnikoff in 1883. He considered this the main and, in fact, probably the only defensive agency of the body for resisting disease. This process of bacterial ingestion he named "phagocytosis," from the Greek "phagein," to eat and "kutos," cell. It was, however, soon known by the investigators that "phagocytosis" is only one of a number of resistive forces produced under the stimulation of the presence of disease-producing bacteria. In fact, "phagocytosis" itself was found by Wright to be, to a great extent, dependent on the preparation of the bacteria for ingestion and

digestion by certain antibodies which he called "opsonins" and which we will describe shortly.

In addition to increased phagocytosis, the cells composing the tissues attacked at once begin to manufacture substances having the power of killing the disease germs and neutralizing their toxins. These substances are called antibodies.

A battle royal goes on between the bacteria and their toxins on the one hand and the phagocytes and antibodies on the other. If the phagocytes and antibodies win the patient recovers. If the bacteria and their toxins win the patient dies.

**Antibodies.**—There are at least four kinds of antibodies, i. e.:

1. Bacteriocidins, which kill bacteria.
2. Bacteriolysins, which dissolve bacteria.
3. Agglutinins, which clump bacteria and render them inactive.
4. Opsonins which prepare bacteria for ingestion and digestion by the leucocytes.
5. Antitoxins, which neutralize the poisonous substances produced by bacteria.

**Wright's Opsonic Theory.**—Following up Metchnikoff's phagocytic theory, Wright demonstrated that the function of the antibodies called opsonins is to prepare bacteria for ingestion and digestion by the leucocytes. The name opsonin is from the Greek word "opsono," meaning "I prepare food for."

According to the opsonic theory of immunity, there are normally, in the blood, opsonins specific to each kind of disease-producing bacteria. When a germ invades the body the tissue cells immediately produce a large amount of antibodies, including opsonins. In the meantime the leucocytes, or phagocytic corpuscles of the blood, rush to the site of invasion to repel the bacteria by ingesting and digesting them, or, in other words, eating them up. This the phagocytes cannot do until the bacteria have been prepared to be eaten by the opsonins.

Thus we see that immunity to disease germs is produced in the healthy animal body by the action of the disease germs themselves, which have the power of stimulating the tissue cells to produce antibodies. Some of these antibodies destroy the bacteria or render them inactive and others aid the phagocytes to ingest them.

**Application of Natural Phenomena in Prophylaxis and Treatment.**—The artificial reproduction of the phenomena which form Nature's method of protecting the body against bacterial infection, it has been shown, may be brought about to a greater or less extent by the subcutaneous injection into the patient of the bacteria against the ravages of which it is desired to secure protection.

**Bacterins (Bacterial Vaccines).**—We will now describe the preparation of the bacteria for therapeutic use. Bacterins or bacterial vaccines consist of suspensions of killed bacteria in normal saline solution. They are standardized by determining the number of bacteria per cc. of suspension. The term "suspension" gives the impression that the bacterins are turbid. This, however, is not necessarily the case. If the bacteria are easily grown the resulting bacterin may be perfectly clear, while if a special medium is needed to obtain the growth the product may appear turbid.

Wright terms standardized and sterilized suspensions of bacteria "vaccines." As the term "vaccine" more properly refers to virus derived from bovines, the term "Bacterin" has been suggested, and the employment of this term is gradually extending into the literature relating to so-called "bacterial vaccines."

**Stock versus Autogenous Bacterin.**—Bacterins are prepared either from germs cultured in the laboratory, or directly from germs isolated from the patient. In the first case they are called *stock vaccines*, and in the latter *autogenous vaccines*. The question of stock vaccines versus autogenous vaccines is one concerning which there has been much dispute. Some physicians, claiming to be authorities, insist that autogenous vaccines should always be used. Either opinion is not justified by the facts. Wright and his followers largely employ stock vaccines, and insert autogenous vaccines only when stock vaccines fail, or when for any special reason autogenous vaccines are to be preferred. Stock vaccines are used exclusively in immunization against typhoid fever, and the wonderful success resulting should be sufficient answer to those who claim that stock vaccines are of no value.

Some authorities who advocate the use of stock vaccines allude to the fact that immunity against smallpox produced by vaccination is obtained by the use of stock vaccines; also that tuberculins are stock bacterins, and that no one questions their efficacy.

Drs. Illman and Duncan state that "in the majority of cases stock vaccines are just as efficient as autogenous vaccines."

Cole and Meakins, in referring to their use of stock gonococcal vaccine, state that "it has been held by some writers that certain strains of the gonococci are endowed with special powers in the production of opsonic immunity. Our experience has been quite to the contrary. The vaccines used by us were prepared from four different strains of gonococci. In comparing the results obtained no distinct difference could be demonstrated in the clinical results or effects on the opsonic index when the patient was vaccinated with a vaccine made of his or her own organism or when a different vaccine was used."

Hamilton and Cooke prefer to use stock gonococcal vaccine made from a culture which has been grown for a long period. They say, "Better results are obtained by the use of strains which have been grown for a long period on artificial media than by the use of freshly isolated strains, and there appears to be no advantage in using the patient's own organism."

Hartwell and Lee are using stock staphylococcal vaccine at the Massachusetts General Hospital with a conspicuous success in the treatment of localized surface infections, such as boils, carbuncles and septic wounds. Their experience is based on about 100 cases obtained mainly from the wards of the Out-Patient department. These authors state: "We have found that it is not necessary to prepare an autogenous vaccine, but that these cases do equally well when treated with a vaccine of staphylococcus aureus derived from a stock vaccine."

The splendid results of Trudeau, Baldwin, Lawra-son Brown and others in treating tuberculosis with Tuberculin R and Bacillen Emulsion (stock vaccines) without taking the opsonic index, amply testify to the value of stock tuberculin, and also prove that the opsonic index is not essential to successful vaccine therapy.

**Polyvalency.**—It is now considered that many of the early failures with stock vaccines were due to the use of a bacterin composed of but one variety of a certain species of bacterin. Bacterin, as now manufactured, are polyvalent, that is, they are composed of as many varieties of a given bacterial species as possible. The use of polyvalent bacterins has been attended with such success that the manufacturers are now produc-

ing almost exclusively polyvalent stock bacterins and serums.

#### ADMINISTRATION OF BACTERINS.

**Negative and Positive Phases.**—Immediately after the injection of a bacterin there follows a period in which there is a decrease in the amount of opsonins in the blood of the patient, due to their being used up by the killed bacteria injected. This decrease is known as the "opsonic negative phase," and is followed by an increase in opsonins, known as the "positive phase." The negative phase will not be manifested clinically unless a sufficient dose is given to produce more than a physiological effect. In that case the negative phase is manifested by malaise, increased temperature and aggravation of the symptoms. This statement is in accordance with that of Wright, who says: "If a proper dose of vaccine has been injected no clinical symptoms should be produced even during the opsonic negative phase." Leary makes the same statement in other words in a paper read before the Rhode Island State Medical Society, in which he says: "The ideal immunizing response can be produced without the toxic negative phase. Physiological doses of vaccine should be followed by an immediate production of antibodies without toxic action." The same author also states that in chronic diseases, except in tuberculosis, the injection of vaccine in considerable doses is followed by a temporary lowering of the patient's resistance, a frankly negative phase which may exist for some time, during which period a further use of vaccine is not desirable and may be harmful. In acute conditions, when bacterins are used in proper doses, the negative phase is either ephemeral or absent.

**Safety of Bacterins.**—It has been pointed out that patients suffering from a disease in its incipient stage may be vaccinated and the disease may be worse in consequence. In other words, the patient is already suffering with toxemia, and the injection of killed pathogenic bacteria only adds fuel to the flame. This objection was urged strongly against the use of typhoid bacterin as an immunizing agent in the presence of epidemics. Major Russell, of the U. S. Army, says: "This is due to the very exaggerated idea of the importance of the negative phase." This expression we owe to Wright, who believed that a body lost some of its normal protective agencies during the reaction immediately following the administration of the vaccine, and that in this short interval a man was in a condition of increased susceptibility to natural infection. It has now been shown that such fears are groundless, but for a time this idea presented an almost unsurmountable obstacle. Wright believed its danger to be so real that he advised against the administration of the vaccine to men who were about to enter endemic areas. With the doses now in use we see no evidence of any negative phase.

Of course it is possible to produce a permanent negative phase by superimposing one large dose upon another in rapid succession. A certain length of time is required for the production of antibodies, and not until the negative opsonic phase has disappeared is it time to inject a second dose. This time varies from 2 to 5 days in acute cases, and from 3 to 7 days in chronic cases.

**Importance of Bacteriological Examination.**—Theoretically, the use of bacterins should always be preceded by microscopical examination of the pus or other discharge or of cultures made therefrom to determine the identity of the infecting organism. The opsonic index may be employed for this purpose either by testing



the blood against the suspected organisms and using that bacterin which corresponds to the germ to which the index is lowest, or by injecting the bacterins in turn and indicating which germ most strongly influences the index.

In case bacteriological examination is not practicable, owing to haste or other reasons, treatment should be commenced at once with the bacterin corresponding with the organism supposed to be the cause of the infection. Bacteriological examination should be made later if the disease does not yield to the treatment. Bacteriological examination is, moreover, of particular value in determining the existence and nature of mixed infection.

**Procedure in Cases of Mixed Infection.**—When a mixed infection exists, that is, when more than one particular bacterium is at work, more than one bacterin should be employed to meet the indications. If, for example, upon bacteriological examination a patient is found to be infected with gonococci associated with colon bacilli, the corresponding bacterins should be mixed and injected; and if staphylococci are also found to be present, staphylo-bacterin should be added to the mixture. The manufacturers supply mixed bacterins to meet these indications. However, the physician may readily make his own mixture by placing the required amount of each bacterin in a sterilized vial or test tube and then drawing the mixture into a hypodermic syringe.

**Dosage.**—When the principles underlying bacterial therapy are taken into consideration it becomes apparent that the size of the initial dose is not so important a factor as some practitioners believe it to be. The response to be expected by an initial dose cannot be determined in advance of the injection. After the first injection is made and the effect noted, the dose may be increased or decreased accordingly. If inadequate immunizing response is secured one of the rules in regard to doses given by Wright will be found a sufficient guide, namely: Never advance to a larger dose until it has been ascertained that the dose which is being employed is too small to evoke an adequate immunizing response."

Now, in regard to subsequent doses. As stated by Floyd and Worthington: "The amount of vaccine required to increase a lowered standard of response or to produce artificial immunity varies according to the age, personal characteristics of the patient and the identity of the microorganisms. The type of infection, its duration, extent and severity are all important factors in determining the amount of vaccines to be given. When the general condition of the patient is good, response to inoculation is much more effective than is the case where exhaustion of the productive powers makes stimulation almost impossible.

If no improvement follows the initial dose subsequent injections should be increased until amounts large enough to demonstrate the inadequacy of bacterial therapy in the particular case have been given. If a clinical reaction (characterized by symptoms of malaise, rising temperature, aggravation of local symptoms, etc.) follows the initial dose, the second injection should be smaller.

**Site of Injection.**—Wright believes that the formation of opsonins in the tissues arises at the site of injection, and that the largest production of antibodies occurs at that point. If it were possible to have the tissues in which the antibodies are formed drain into the focus of infection it would theoretically be proper always to inject according to this principle. Wright

calls this injecting "up-stream." As a general rule the injections are made subcutaneously in the suprascapular region when the focus of infection is in the cervical region, although this rule is not invariable. Sometimes injections are made in the arm or in the neighborhood of the groin or in the thigh. A safe rule is to inject the vaccine into healthy tissue as near as possible to the point of infection and distal thereto, preference being given to the region in which the injection will be attended with the least pain or discomfort. When it is not practicable to follow this rule, the injection may be made at any point where there is plenty of subcutaneous cellular tissue, as the circulating blood will take up the antibodies that are formed and carry them to the area of infection, provided this is not walled off in such a manner as to prevent the blood from reaching this point.

Leary recommends the injection of vaccines into the muscles or into the intramuscular connective tissue because of the special immunity which the muscular tissue exhibits against infection, which insures that this class of tissue will respond to stimulation by the bacterins and will produce antibodies which are thence delivered into the blood stream.

**Duration of Immunity.**—As to the duration of immunity against the various infectious diseases to be obtained by injecting the corresponding bacteria, several factors must be considered. As a rule, an attack of smallpox produces a life-long immunity, and the same rule applies, with possibly more frequent exception, to an attack of typhoid fever. But the immunity resulting from vaccination against smallpox is not as lasting as that following an attack of the disease, and the immunity to typhoid fever following injections of killed typhoid germs is not supposed to last more than two or three years.

An attack of diphtheria confers no lasting immunity against the disease, and one attack of pneumonia seems to render the individual more susceptible to subsequent attacks.

Is there any reason to suppose that the injection of killed bacteria will cause a more lasting immunity than that following an attack of disease caused by living bacteria? The contrary seems to be the case. If this is true, why expect the establishment of lasting immunity from diseases which do not present a history of lasting immunity from an attack of the disease itself?

However, there is another factor to be taken into consideration, and that is the degree of natural immunity against all infectious diseases possessed by the healthy animal body and the bearing of this immunity upon bacterin therapy. If, for example, a person is peculiarly susceptible to "colds" owing to a partial breaking down of the mechanism of immunity due to repeated attacks, is it possible to repair this mechanism by bacterin therapy? It seems reasonable, and experience of immunizers appears to prove it. The injection at intervals of a mixed bacterin containing the germs found in so-called "colds" prevailing in certain localities, by keeping the patient's blood rich in antibodies, may ward off attacks until Nature repairs the mechanism of immunity and thus restores the degree of immunity to colds natural to the person in question.

Bichloride of mercury, administered to the nursing mother, has a decided effect upon the gastrointestinal condition and nutrition of the nursing. It is efficacious in a sufficiently large percentage of cases to make it of value as an addition to the therapy of this condition.

## Correspondence

### Not a New Procedure.

April 7, 1913.

To the Editor of THE MEDICAL TIMES:

I derived great pleasure in reading an article by Dr. G. A. Neuffer, of Abbeville, S. C., appearing in the *International Journal of Surgery*, November, 1912, describing an "improved method of treating leg ulcers," reviewed in THE MEDICAL TIMES of March, 1913. The process seems rather familiar to me, but I cannot understand why it is named an improved method. The initial form of treatment as described, consists in "scrubbing the leg thoroughly with warm water and a liquid antiseptic soap, using an ordinary surgical brush as long as the patient permits or until it begins to bleed."

It may be news to Dr. Neuffer that I published an article, entitled "Scrubbing Ulcers," in the *Medical Record* of December 31, 1911. It may not be amiss to quote the essential part of my procedure:

"The patient is placed on the operating-table and anesthetized. All crusts surrounding the ulcer or on any other portion of the leg are removed. An ordinary stiff brush, such as is used by the operator and his assistants for cleansing the hands before operation, is to be thoroughly sterilized. Tincture of green soap and sterile water is all that is necessary. The soap is poured on the ulcer, just enough water to cause a froth, and the scrubbing may begin. At first, disease and spongy tissue comes off in a dark black or grayish mass. A little clean water now and then will wash off the debris and show us how far we have succeeded. Scrubbing should be continued until the base of the ulcer is smooth and the edges stand out clearly, red and hard, giving the whole the appearance of being punched out. There will be some bleeding, but the bleeding seems to be conducive to quick healing. Strenuous scrubbing of the edges is necessary; it smooths them off sufficiently, and the hyperemia resulting therefrom will show its beneficial results within twenty-four hours, when the little blue line of infant granulations will bring its glad tidings of healthy recovery."

An anesthetic is absolutely called for, as the procedure is painful, though simple, and if we are always to cease our operations because the patient complains or "does not permit it" we shall always be hampered. The more thorough the scrubbing the quicker the healing, and five weeks should be the longest time required for the formation of the soft and pliable scar found after this method of treatment. ERIC CARL BECK, M. D.

333 East 6th Street, New York.

### Genuine Progress in Handling the Social Evil.

To the Editor of THE MEDICAL TIMES:

I wish to congratulate you on your editorial in the April issue of THE MEDICAL TIMES, in which you approve of the Municipal Clinic of San Francisco and state that New York would do well to institute a similar method of dealing with the social evil. I am glad to see that our medical editors are at last beginning to see that there are better methods of dealing with the social evil than ignoring it altogether, denying its existence, or brutally maltreating, hounding, grafting upon and scattering the unfortunate followers of the trade of prostitution.

When I began to advocate the humane, common sense, sanitary treatment of the prostitute I was practically

alone in the field, and the howls and jeers from those of our good brethren, who never think an original thought, were many. But while the progress of new and human ideas is slow, I am optimist enough to believe that nothing can stop their march, and that eventually this will be a much better world to live in than it is now.

Whatever the hypocrites may say to the contrary, the prostitute is a human being driven to her trade by inexorable economic and biologic necessities, and, as long as the trade she is engaged in is a dangerous trade, we have a right to supervise and to regulate it, as much for her own sake as for the sake of the public in general.

WILLIAM J. ROBINSON, M. D.

### The Glasgow Lister Ward and Museum.

To the Editor of THE MEDICAL TIMES:

As a memorial to the late Lord Lister, and as a means of perpetuating his memory in a way that it is hoped will prove both interesting and instructive to every member of the medical profession for all time to come, one of the wards in the Royal Infirmary, Glasgow, in which he worked out and first put into practice the principles of antiseptic surgery, is to be reserved and utilized in the following way: one part of the ward is to be refurnished as it was in his time with such objects as it may be possible to acquire; while the other part is to be made into a museum for the exhibition of anything associated with the life and work of the great master. It is, therefore, asked that any who may have letters, pamphlets, books, or other objects of direct personal association with Lister and his work will either present or loan them to the Museum. Professor John H. Teacher, M.D., Hon. Curator of the Museum, will be pleased to receive any objects addressed to him at the Royal Infirmary, Glasgow, Scotland.

The names of all donors or senders of objects are to be affixed to the exhibits. Dr. A. Ernest Maylard of 12 Blythswood Sq., Glasgow, is chairman of the museum sub-committee.

A. ERNEST MAYLAND.

### Congress on School Hygiene.

To the Editor of THE MEDICAL TIMES:

The fourth International Congress of School Hygiene will be held in Buffalo August 25-30, under the patronage of Woodrow Wilson.

This congress will be the first of its kind ever held in America. A comprehensive program of papers and discussions covering the entire field of school hygiene is being arranged. There will be scientific exhibits, representing the best that is being done in school hygiene. Plans are being made for a series of social events. Buffalo has just taken up a collection of \$40,000 for the purpose of covering the expense of the congress.

Delegates will attend from all the leading nations, from every college and university of note in this country, and from various other educational, scientific, medical and hygienic institutions and organizations. The congress is further open to all persons interested in school hygiene. Membership may be secured on the payment of a five dollar fee. Applications should be sent to Dr. Thomas A. Storey, College of the City of New York, New York City. THOMAS A. STOREY.

Public health officials in malarial districts should indoctrinate the people in every possible way with the belief that mosquitoes and malaria are allied afflictions, and that both are preventable.



# The Medical Times

A MONTHLY JOURNAL

OF

Medicine, Surgery, and Collateral Sciences

ESTABLISHED IN 1872

EDITED BY

H. SHERIDAN BAKETEL, A.M., M.D.

Original articles and clinical communications will be welcomed, if given for exclusive use in this journal.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

## SUBSCRIPTION RATES:

(STRICTLY IN ADVANCE)

UNITED STATES, - - - - -	\$1.00 per year
(Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)	
CANADA, - - - - -	\$1.25 per year
FOREIGN COUNTRIES IN POSTAL UNION, - - -	\$1.50 per year
SINGLE COPIES, 15 CENTS	

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded, until written notice to discontinue is sent to the publisher.

All communications should be addressed to and all checks made payable to the publishers.

## MEDICAL TIMES CO.

ROMAINE PIERSON, *President and Treasurer*  
H. SHERIDAN BAKETEL, *Secretary*

108 Fulton Street, - - - New York

Entered as second-class matter, Post Office at New York, N. Y., Act of Congress of March 3d, 1879.

NEW YORK, MAY, 1913.

## Modern Institutionalism and Its Effect Upon Medical Progress.

There was a time when there was no serious degree of heresy involved in a denial of the entire beneficence of our research institutes and kindred medical machinery. We use the term machinery advisedly, for in the course of our evolution we have witnessed a kind of Morganization of professional activities, which, having grown in enlightenment, we no longer view as connotative of decadence. To-day, instead of viewing cynically and pessimistically the centralization of methodic research, in place of the spasmodic efforts of detached individuals, we witness both a tacit and an expressed confidence in the methods that have come to characterize our scientific work. Men may work as individuals to-day just as they always have, and splendid contributions will come from such sources, but nevertheless co-ordination is the order of the day, and properly so.

While perhaps in the main our medical schools show a tendency to become factories for the production of what may be called superb automatons, men well schooled in the formulas of books, men thoroughly trained in the imitation of orthodox technique, men who are merely competent—in accordance, apparently, with the views of certain well known academic moulders of professional thought—nevertheless it cannot be denied that such schools turn out a reasonable quota of men possessed of scientific initiative and endowed with a native ability that turns the opportunities of such schools to better purposes than the facilities of the old type of schools would have inspired. If there are more men in our present-day schools, proportionately, imbued with scientific pedantry and Philistinism, none the less they are checkmated and dominated by progressives who refuse to consider the function of the schools

as the manufacturing of a competent servant class of physicians, well qualified to deal with the commonplace illnesses of men, women and children, and nothing more. They do not conceive of the schools' "products" as practically identical with those of an industrial school, turning out good artisans. There is no danger to the aims of the spirit of a high professionalism; nor do the research institutes represent an attempt to obviate the shortcomings of the schools.

Medicine is not under the thralldom of the dollar. While it is under process of Morganization, in a good sense, it has not, like charity, felt the influence of the plutocratic curse, despite colossal endowment. The miserable commercial standards of the day find no reflex prototypes in the laboratory. Professional needs of the highest order are supplied by it, and but little canned medicine is dispensed.

If the endowed research institute had been largely barren of results it might be in order to carp. But contributions are constantly emanating from it that are worthy of the best traditions of the profession, and in a measure all out of proportion to older methods. Medical progress is feeling the inspiration of creative minds to the degree that it should. Men are even selected to preside over the destinies of our institutes because they are geniuses, no less than because they conform to certain academic standards. Genius to-day is coming into its own, and is not regarded merely in the biologic sense, as a sport, or abnormal variation, or as an interesting phenomenon merely, but as an assimilable asset and "the absolute of human accomplishment." The Brunos of the profession are more respectable than they ever have been. Now they are orthodox and we no longer burn them at the stake but harness their energies properly. The instinct to hamstring them has atrophied. We have learned to overlook their erraticisms and temperamental faults, long supposed to unfit them for administrative usefulness. Such traits are notorious in some of our foremost directors and we prefer them with all their faults to academic owls possessed of all the smug credentials and placidities once supposed to be indispensable in the aspirant for scientific honors. Our Nichols no longer exclude our Carlyles; our medical Adam Smiths, our Byrons, and our Shelleys are properly billeted to-day. A Carrel or a Flexner is acclaimed without reservation.

These facts obtain largely because of the wholesome attitude of the general profession. Leaders are not blindly worshipped by a machine-made clientele. Scientific righteousness is judged by its works, progress is insisted upon, and the clogging of its wheels would be dangerous business for anybody entrusted by the profession with definite responsibilities. The profession has its own methods of applying the *recall*, and the workers in our marble-walled institutes are not permitted to linger too long upon the thresholds of discovery. Rhetoric, promises and academic tommyrot are labeled at low rates in the minds of the independent thinkers who constitute the backbone of the professional body, and who look to the detached workers like Finley of Havana just as much as they look to the institute men. There are no medical tin gods and no sacred hierarchies of the laboratory. The ostracism of genius by uninspired doctrinaires is not permitted to-day. Such men as David Starr Jordan and Haeckel sound the note of the spirit of progress that must dominate in present-day scientific activities, and we are but echoing it. The possibility that scientific sickness might be engendered by the colossal endowments that have come to us has not been realized.

### Heredity and Environment.

The relative importance of heredity and environment is an ever constant theme of discussion. It has been truly said that the latter cannot endow or create, and that a man's finer or lower instincts are really born in him. Character, then, is most dependent upon heredity. Environment may pervert, but it can make a man neither false nor true. The noblest impulses are inherent, inborn, essential. Yet that they may reach their full flower the environment must usually be good. It is true that many people literally create their own environment, when they find that immediately about them unlovely. The higher reaches of the mind enable us to transmute the ugliest sphere of action and to make a gray world seem glowing with color. Perhaps the alienists would call this an intellectual psychosis, but we would call it a splendid human asset. As eugenists we declare for good blood, good heart, good brain, and good environment. We must have all these as a general proposition, yet the first three are the trinity to which we pin our eugenic hopes chiefly. Heredity is the main essential. It is the men of good heredity who have given us all that is good in environment.

There is one paradox that even the eugenists cannot deny and ought not to lose sight of, and it is all but impossible to reconcile it with their principles, and that is, that good can and often does come out of evil—more often than most of us like to admit. Evil has its opsonic as well as its vicious and sinister connotations. Then there is that other paradox, which again appears to confound the eugenists, the fact that evil can come out of good—a Caligula out of a father like Germanicus, a Commodus out of such a sire as Marcus Aurelius, a Domitian out of a Vespasian.

Scholomovitch published in the *Rousky Vrach* for August 18, 1912, the results of his investigations in 500 insane and 500 mentally sound persons, his conclusions being that degeneracy is not seen much less often in the latter than in the former, as regards antecedents. Keller and Diem have recorded similar results. What would such facts seem to indicate? That our conception of eugenics is faulty, and that regeneration and not degeneration is the racial tendency. Degeneracy is not hereditarily transmissible, according to this school of observers. There is no need of sterilization of defectives if we are leveling up and not degenerating—the newer generation becoming more adapted to the struggle for existence than the parents. This is a startling and apparently doubtful theory. If true, it justifies our protection of the weak and the attempted reintegration of those who are failures. Redemption, then, and not elimination, ought to be our slogan. According to this view, crime, misery and dependence are not due in the main to bad antecedents, and environment becomes everything.

We leave the conflicting views with our readers for further cogitation. Our own attitude we have indicated clearly enough.

### The Mending of Misfits.

It is gratifying to note such movements as the establishment of clinics for backward children. The College of the City of New York is shortly to take up this work with thoroughness. There is a city appropriation of \$5,000 covering this enterprise. Such a clinic will be a clearing house for all the public schools of New York. All the problems offered by the defective child will be studied and the best possible solutions worked out. At first all the work will be done in the clinic and labor-

atories, but ultimately it will be carried into the homes of the children and environment studied as well. Public school teachers have been in course of preparation for the past two years for this work in mental hygiene in the afternoon classes at the college under specialists in psychology.

It seems to us that this work ought to help our educators to make the public school system more elastic. There are many exceptional children who do not do well in the public school hopper as we know it to-day, yet they are not taken into much account. The curriculum should be sufficiently broad to provide for all the types, short of the markedly defective. We believe it to be a fact that many of the boys and girls who go wrong are endowed with potentialities that have never been properly harnessed. The school system must be made adaptable to such children, for there are many children who, while of good and sometimes of extraordinary parts are not adaptable to it in its present form. Such work as that at the City College should lead to a marking out of the proper lines of educational procedure. Our democratic principles oblige us to this important task.

### The Nursing Problem.

One of our chief and most vexing problems continues to be that of providing efficient nursing for people of moderate means. Recent legislative efforts to limit nursing privileges to registered graduates, or at least to limit to them the title of trained nurse, have excited much interest and considerable protest, since such measures would create a monopoly. It is a fact that there are many nurses who have been specially trained to take care of certain classes of patients, such as the tuberculous. They have some rights before the law. Chapin has proposed that the schools train different classes of nurses in different degree. For some the courses need not be so long, rigid and elaborate as for others. The highly trained nurse is of course indispensable, but there could be grades under the Chapin plan denominated respectively Trained Nurse, Trained Attendant and Registered Special Nurse. These would receive different rates of remuneration and all classes in the community would be adequately served. This appears to us to be a rational solution of the problem. Every one undertaking to care for the sick for pay should have had hospital training. It is grossly unjust that the hospital graduate should have to compete with the holder of the diploma of a correspondence school. It is as essential for the nurse to have hospital experience as it is for the physician to serve as a hospital intern.

### Industrial Hygiene.

The great corporations of the country are showing a commendable spirit in studying the conditions under which their employees work with a view to obviating fatigues which in the case of those charged with responsibility for human life become at times very dangerous, as well as with the idea of making such conditions of work as pleasant as possible for the workers. Much more can be said for the great trusts in this respect than for the smaller business concerns of the country. It is being ascertained how many hours of efficient work can be done by differently constituted individuals. Where it is found that men who now work eight hours are working say twice as long as they can reasonably be expected to, their work will be varied accordingly. This kind of scientific endeavor is no more humanitarian than it is economically wise.



## Medical Editorial Table

### Effect of City Life on Physical Development.

Contrary to what has always been supposed upon *a priori* grounds, there are reasons for believing that life in a city is not necessarily destructive to physical health or even inconsistent with its highest development and propagation. Munro, of Harvard, has studied this question upon the basis of statistics gathered by the military establishments of France, Germany and Italy during the last quarter century and made up of measurements of millions of men drawn from all sections. His study would seem to show that there is no conclusive support to be given to the notion that city life is physically debilitating. On the contrary, the percentage of those who are rejected each year for failure to meet the minimum requirements in height, weight, chest measurement, etc., is in many cases higher among recruits from the rural areas than among those drafted from the population of the large cities. The fact that many of those who enter the army from cities were born in the country would scarcely account for the urban superiority which the army statistics often show. Military leaders have frequently, in the great wars of the nineteenth century, commented upon the superior powers of physical endurance displayed by urban regiments. The evidence now obtainable gives no proof that the urbanization of a people means physical degeneracy. Health, strength and vigor evidently depend less upon place of residence and occupation than upon cleanliness, variety of diet and prompt attention to minor bodily ills. The city, although man-made, must be regarded as filling a place in the scheme of evolution, and as affording advantages of environment without which man's progress to his present estate would have been impossible. Nor is the city a mere mill for remorselessly grinding the grist of humanity with which it is supplied from the country. It is nature's laboratory of finest experiment in the problems of co-ordinated human living.—(*Boston Medical and Surgical Journal*, March 6, 1913.)

### Insanity and the Neuropathic Inheritance.

The world's history has been made by men who were either epileptics, insane or born of neuropathic stock, although the brilliant intellectual qualities of a degenerate are generally associated with a lack either of moral sense or of sound judgment and higher control. This is certainly a paradox. That genius is to madness near akin, and that insanity and neuropathy are in many instances closely allied, would seem to be the view of most observers. Degeneracy on a large scale is a curse, but genius, if not a blessing to the possessor thereof, is a boon to the race at large. Without the neuropathic taint it is possible that there might be no geniuses, but with degeneracy rampant a nation must decay. Consequently, it would be madness to encourage or permit degeneracy because by so doing genius might be bred, for it must be borne in mind that while few degenerates are endowed with the divine spark, many of them are physically, mentally and morally a bane to the race. Better it will be to uproot degeneracy as far as is possible, even if some brilliant brains are lost to the world thereby. In any event, city environment should be improved by all the means in our power, as it is in the crowded cities that the worst type of degenerate is evolved. And, after all, environment is a powerful factor in the manufacture of this product of civilization.—(*Medical Record*, March 15, 1913.)

### The Working of the British Insurance Act.

An unsatisfactory situation seems developing in regard to the British National Insurance Act. Although the medical profession of England had voted as late as December 21, 1912, against taking service under the act, yet by January 15th Mr. Lloyd George succeeded in coercing many physicians through a course violating the principles formerly enunciated by him. A service more or less adequate in numbers to the aggregate of the insured is now in operation, though the proportional distribution is still a problem, some districts affording only a few hundred insured, while in others there are from 2,500 to over 5,000 insured for each panel doctor. Those who have accepted service are of four categories: a few who honestly believe that the conditions of service are or can easily be made satisfactory; a contingent of government partisans to whom all considerations are subsidiary to the political support of Mr. Lloyd George; the professional derelicts, and a body of medical men, probably much larger than all the others combined, who under threats of ruin have yielded to what they regard as a degrading professional servitude. Some districts are occupied almost exclusively by the insured panels, and the doctors in such districts have to go upon the panels in order to make a living. All the indications point to the failure of the act, in the sense that the sick will not get proper attendance. The doctors themselves could hardly be worse off. Office consultations and visits average nine cents apiece in pay. They work about sixteen hours a day, much of which is clerical labor. Several serious results are becoming manifest aside from the demoralization of the professional men now in the toils of the act. Hospital subscriptions are falling off, fewer men are entering the profession, and the profession is disorganized. To forecast the future is not easy, but the outlook for the once glorious British medical profession seems decidedly gloomy.—(*Interstate Medical Journal*, March, 1913.)

### Examination for Feeble-Mindedness Among Immigrants.

The problem of the feeble-minded is one that presses insistently for solution, especially that phase of it having to do with the detection of mentally defective immigrants. An acute situation exists in New York State, where, with facilities for 6,000 defectives, 30,000 cases present themselves for consideration. Very many of these are immigrants or the children of immigrants. Both the force charged with the detection and exclusion of the feeble-minded and the appropriations devoted to this work are inadequate. The training of many inspectors is not of such specialized character as to enable them to pick out, with the greatest possible degree of accuracy, the feeble-minded among immigrants. There is also a lack of interpreters at Ellis Island. There is even a lack of a place for the force to work properly.

This is work calling for great expertness, for although the essential phenomena of feeble-mindedness are the same among all races, particular methods are insufficient. Identical methods will not suffice, for standards of intelligence and knowledge are not exactly the same, varying with the different races. Differences in language and racial points of view towards life's problems have to be carefully considered. What constitutes a moron is not definitely decided. It is a hard task to differentiate between the moron and ignoramus in the case of immigrants.

The Binet-Simon test is accurate when applied to those brought up in an environment similar to that of

the persons among whom the original experiments were conducted. It is also accurate when applied to Americans in Goddard's modified form. It is not an infallible test when applied to immigrants. Healey's rack test and Fernald's test are also untrustworthy when applied to immigrants. Dense ignorance must not be confounded with inherent mental incapacity. There are individuals who cannot stand any of these tests very well, where powers of observation and constructive imagination have lacked opportunity for development. Yet such individuals may be normal and able to pass tests based upon matters which have come within the range of their experiences and involving both intellectual and moral judgments. The examination must consider the reaction of an individual to his environment under all circumstances. The tests must have an air of familiarity about them. Every artificial aid must be used, but used with caution. What the examiner must determine is whether or not the alien is lacking in one or more mental traits which will make it impossible for him to assume his normal relations to society. Time, adequate facilities and a sufficient force of specially trained and experienced inspectors are all essential, if an effective showing is to be made in the detection of the feeble-minded who seek to enter our country.—(*J. A. M. A.*, March 22, 1913.)

#### The Germ of Acute Poliomyelitis or Infantile Paralysis.

Flexner's discovery of the germ of infantile paralysis, or better, acute poliomyelitis, since the disease also occurs in adults, crowns a series of painstaking researches. It had long been uncertain whether the pathogenic agent which penetrated the Berkefeld, Chamberland and Reichel filters was an organism or its toxine. The anaerobic organism now identified by Flexner, owing to its minuteness and other attributes, meets satisfactorily various peculiarities shown by the virus, including its filterability. Of great practical interest is the fact that this virus is found with considerable constancy only in the nasopharyngeal mucosa. Prophylactic treatment therefore offers some promise, for the virus is killed by comparatively weak disinfectants, such as a one to five hundred solution of potassium permanganate, a one per cent. solution of hydrogen peroxide, or a one per cent. solution of menthol in oil. Hexamethylenamine also promises much, because it is excreted into the cerebrospinal fluid, even when administered by the mouth. A serum will probably follow the identification of the germ, and we may entertain reasonable hope that before very long another of humanity's foes will have been controlled.—(*New York Medical Journal*, March 22, 1913.)

#### A Useful Method for the Treatment of Pregnant Syphilitics.

The reports on the use of salvarsan in pregnant syphilitics have been few compared to those on its use in other cases. Lesser, Michaelis and Spiethoff say that pregnancy is not a contraindication to its use, and von Zeisl adds that "because of the rapidity of its action, it seems especially suited to syphilitic pregnant women with a view to the prevention of abortion and the delivery of a sound child." It has been given as late as the eighth month, but should, if possible, be given early, and followed with a second dose, or with mercury if a positive Wassermann reaction persists. One method is to start with mercury, give vigorous injections or injections to the point of saturation, and then administer the salvarsan.

## Eugenics

### Heredity: With Especial Reference to the Law of Gregor Johann Mendel, O. S. A.

John M. Connolly, of Boston, discusses the subject of heredity in the light of the latest discoveries, lucidly and quite exhaustively. His paper runs through two numbers of the *Journal*. It is adequately illustrated and ought to be read by anyone who is looking for a good general exposition of the subject. Certain religious inferences are drawn at the close of the paper with which most of us would agree, and they are not put forward in a way to suggest special pleading, which is more than can be said of the efforts of some of our highly respected and thoroughly scientific colleagues who are a bit too zealous in a certain way and who do not appear to realize as keenly as they should that such an attitude is no more creditable than that of certain liberal thinkers, so-called, who inject their bigotry into everything they write. Connolly thinks that further data will enable us to establish the following rules:

1. Both parents being neuropathic, all children will be neuropathic.
2. One parent being normal, but with the neuropathic taint from one parent, and the other parent being neuropathic, half the children will be neuropathic and half will be normal but capable of transmitting the neuropathic make-up to their progeny.
3. One parent being normal, and of pure normal ancestry, and the other parent being neuropathic, all children will be normal but capable of transmitting the neuropathic make-up to their progeny.
4. Both parents being normal, but each with the neuropathic taint from one parent, one-fourth of the children will be normal and not capable of transmitting the neuropathic make-up to their progeny, one-half will be normal but capable of transmitting the neuropathic make-up, and the remaining one-fourth will be neuropathic.
5. Both parents being normal, one of pure normal ancestry and the other with the neuropathic taint from one parent, all the children will be normal; half of them will be capable and half incapable of transmitting the neuropathic make-up to their progeny.
6. Both parents being normal, and of pure normal ancestry, all children will be normal and not capable of transmitting the neuropathic make-up to their progeny.—(*Boston Medical and Surgical Journal*, Dec. 5-12, 1912.)

### The Teaching of Eugenics in Schools.

Leslie argues strongly in favor of eugenic teaching for boys and girls, who would then be much less likely to grow up with false or perverted ideas of sex matters. He briefly discusses the four following questions: (1) Should there be preliminary teaching at home? (2) At what age should sex and eugenic teaching be given in schools? (3) What form should such instruction take? (4) How should such instruction be given? He gives the following general principles for guidance in regard to the teaching of eugenics: (1) All teaching must be authoritative and given by qualified instructors of the same sex. Vague, amateurish teaching is not only useless, but may be positively dangerous. (2) Teaching should be given on a basis of perfect frankness. (3) The subject should be treated as both a serious and sacred matter. (4) Nature study of plant and animal life is the best introduction to the subject, followed by studies in physiology and personal hygiene.



(5) The teaching is best given in small classes, supplemented by incidental and confidential talks with individual pupils as occasion arises. Confidence between teacher and pupil is to be encouraged in every way possible. (6) The teaching should as far as possible have due regard to the age, temperament and home environment of the pupil. (7) The personality of the teacher is every whit as important as his or her technical knowledge of the subject. (8) There should be encouragement of intellectual, emotional and social interests outside school work. This may be partly achieved by fostering a taste for the best in literature, art, music or science.—(*Jour. Royal Inst. Pub. Health*, 1911, xiv.)

## Public Health

### The Municipal Clinic of San Francisco.

Julius Rosenstirn, of San Francisco, describes the successful workings of the clinic in that city devoted to the treatment of diseased prostitutes. His experience leads him to formulate the following fundamental requirements for the successful operation of modern institutes for the sanitary regulation of prostitution:

1. Prostitution, if regularly and officially supervised, although morally and socially abhorred, should not be punishable criminally, and its regulation should be left to municipalities or counties.

2. The display of a spirit of helpful, dignified sympathy by the institutional officers and employees toward the unfortunates who come under their administration should supplant the medieval attitude.

3. There should be a persistent effort to educate the clients of the institution to the perils of their trade, to the methods of their avoidance, and to an appreciation of the institute's beneficial services for their protection.

4. An attempt should be made toward the inculcation of self-dependence by charging a small examination fee, sufficient to maintain the expenses of the institution, thereby insuring free and private medical, ambulatory and unlock hospital treatment: This could be so arranged as to have the landladies assume part or all of the charges.

5. There should be a police detail attached to the institution for surveillance and rounding up of delinquents by specially fitted officers.

6. Control of examination would be helped by cards affixed in the private rooms of houses of prostitution calling for inspection of certificates of examination by the visitors, but disabusing their minds as to a possible feeling of safety.

Rosenstirn believes that if institutions for the sanitary control of prostitution were established and carried on along the foregoing lines throughout the country, that the number of infections with venereal diseases would be very materially lessened, the injuries as well as the opprobrium resulting from the existence of prostitution greatly diminished, and a class of human beings benefited for whose debasement and degradation our vaunted civilization must be proclaimed chiefly responsible.—(*Medical Record*, March 15, 1913.)

### Effect of Present Prevention on the Spread of Consumption.

Thomas J. Mays, of Philadelphia, has studied a large mass of statistics collected by him through the liberal generosity of the health departments of the most populous cities of this country, statistics bearing upon the progress of tuberculosis, and draws well-defined conclusions from them. He declares that whatever distrust

one may have in regard to the value of statistics, and whatever the shortcomings of those which he himself presents in his paper, it is obvious that the trend of the evidence is strong enough to force the conviction that the decrease of the death rate of consumption has not been accelerated one whit by the preventive measures which have been evoked during the last ten or fifteen years; on the other hand, there are positive indications that, on the whole, the number of deaths from this disease have, for some unaccountable reason, increased during the years when these measures were in full sway. In other words, the modern prevention idea of stamping out consumption by fumigation, disinfection and isolation, is evidently proceeding on a blind trail, and it is high time that we strive to recall our mental equilibrium and to realize that experience, which is, after all, our best practical master, teaches that the only remedy which has so far been found effective in reducing the number of deaths from this disease, consists in the improvement of our physical and mental environment, and in the moral betterment of the human race.—(*Medical Record*, November 30, 1912.)

### Quarantine in the Maritime Cities of the United States.

The foregoing is the title of an elaborate report of the Public Health, Hospital and Budget Committee of the New York Academy of Medicine, written by the executive secretary, E. H. Lewinski-Corwin, Ph.D., and approved by the committee. It reviews thoroughly the history of quarantine in the United States, as well as in other countries, and discusses all the arguments for and against Federal control of the service. The report concludes with the following summary:

1. Because of the international character of modern commerce the tendency of the last fifty years has been from local and provincial regulations to uniform national and international rules and laws.

2. Prior to 1893 there was no national system of quarantine in the United States. Since that time forty-eight ports have come under the control of the Public Health Service of the Treasury Department, so that there are at present only two ports whose quarantine stations are managed by local and state authorities.

3. In order that the United States may be a responsible party to international agreements regarding quarantine regulations, it must have control and supervision over all the ports of the country.

4. The record of the past work of the United States Public Health Service is such as to insure confidence in its efficiency. It has a well-trained staff of medical officers and is equipped for efficient quarantine administration.

5. Quarantine work is essentially scientific in its nature and cannot be carried on efficiently unless the tenure of office is independent of changes in administration and of politics.

6. From the point of view of convenience, efficiency and uniformity of administration, economy and law, the arguments are in favor of a national control of quarantine at all the ports of the United States.

After which the committee recommends:

1. That the quarantine station at the port of New York be transferred to the United States Health Service; and

2. That the Council of the New York Academy of Medicine take appropriate action to further actively the above recommendation.—(*J. A. M. A.*, January 18, 1913.)

## Obstetrics

### Abderhalden's Serodiagnosis of Pregnancy and Its Practical Application.

Henry Schwarz, of St. Louis, contributes an exhaustive study of this very striking advance in obstetric diagnosis. There is in the blood of pregnant women a proteolytic ferment which causes cleavage of placental albumin and of placental peptone. This ferment is absent from the blood of non-pregnant women. The presence of this enzyme is demonstrated either by the dialyzation method or by the optic method. These methods are very technical and the reader is referred to the original paper for details. Abderhalden has found that the reaction is positive in every case of pregnancy, and always negative in non-pregnant individuals. His findings have been confirmed by Schwarz, Veit, Frank, Heimann, Franz, Jarisch, Henkel, Lindig and Petri. The reaction is positive from the middle of the second month of pregnancy on. It disappears from ten to fifteen days after pregnancy terminates irrespective of the time of such termination, whether it takes place at term or prematurely, and irrespective of the fact of nursing or not nursing the baby. Schwarz thinks that the reaction is due to the entrance into the maternal blood of substances derived from the syncytium. A positive reaction with the biological test for pregnancy, therefore, means that the individual from whom the serum was obtained either harbors placental elements in the body or else has harbored such elements up to a short period ago, which period does not exceed two weeks; it means that the individual is or has been pregnant. It does not mean the presence of a fetus, for hydatiform moles, in the absence of a fetus, will give a positive reaction; the same is undoubtedly true of chorio-epithelioma in the absence of any recent pregnancy. Veit overestimates the value of the test in the differential diagnosis of ectopic pregnancy, because in the early weeks the uterus is considerably enlarged and the reaction can give us no information as to whether or not the ovum is inside of the uterus. This test will be most valuable in determining pregnancy in the case of the nursing or non-nursing mother who has not menstruated since her baby was born but whose uterus is enlarged and in the case of the girl or woman who has no right to be pregnant and whose amenorrhea may be due to causes other than pregnancy. It will also have a place in medico-legal cases and in the differentiation of new formations otherwise indistinguishable from the enlargement of pregnancy.—(*Interstate Medical Journal*, March, 1913.)

### The Treatment of Hemorrhagic Disease of the Newborn.

Beth Vincent, of Boston, discusses very thoroughly the different methods of dealing with hemorrhagic disease of the newborn, reports a series of cases, and summarizes the results as follows: Several cases received animal serum subcutaneously without apparent result, and were subsequently cured by transfusion. While it cannot be said that animal serum is altogether ineffective, human blood or its derivatives is more valuable in these cases. Vincent admits prejudice in favor of transfusion. Schloss and Commiskey, using whole human blood, and Welch, using blood serum, have been successful in checking the bleeding in this disease. If the bleeding in many of these cases is due to a defect in the infant's blood, which is apparently improved by all three methods of treatment, it would seem that trans-

fusion is the ideal method, because it restores directly to the infant's circulation all the elements needed for coagulation. It also possesses the advantage of correcting the anemia by replacing the cellular elements which have been lost in hemorrhage. It is the only method from which results can be expected in severe types of the disease in which the patients have been exsanguinated by continuous profuse bleeding. The success attending the use of whole human blood, blood serum, and transfusion, would lead to the belief that the best line of treatment is a rational combination of all three methods. Immediate transfusion is indicated in rapid and profuse bleeding. In cases of trivial hemorrhage, if seen early, the easier and more simple methods of blood and serum injections are in order. It would be advisable to make the first injection of whole blood to save delay and at the same time to collect enough blood to furnish serum for further treatment. This treatment should be continued if the bleeding stops or seems to be diminishing and the infant's condition remains good. Cases which do not follow so favorable a course, or that are not seen until the patient is exsanguinated by hemorrhages that have been going on for some time, are more safely treated by transfusion. While a formidable method, the results are immediate and permanent. Once accomplished, a case may be left with the assurance that the infant is in no immediate danger, which is of no small advantage when the case cannot be kept under constant observation. Most cases of hemorrhage can be saved by these measures, but there are two forms of the disease in which a cure cannot always be effected by transfusion or any other method of treatment. The first form includes those cases in which the underlying cause of the bleeding, as bacterial infection, syphilis and ulcers of the stomach or duodenum is such as to be fatal in itself, and the second form comprises the cases with hemorrhage in the brain, adrenals, kidneys and liver in which the location, not the extent, of the bleeding is the vital factor. With these exceptions our experience to date with the use of human blood or its derivatives in hemorrhagic disease of the newborn seems to show that this agent is capable of checking the bleeding in this condition and that, by proper application of one or a combination of the methods under discussion we can cure a large percentage of cases in this hitherto exceedingly fatal disease.—(*Archives of Pediatrics*, December, 1912.)

### Contracted Pelvis.

F. E. Leavitt, St. Paul (*J. A. M. A.*, January 4), says that labors with marked pelvic contractions give but one alternative—cesarean section. The lesser degrees are what puzzle the obstetrician and there may be a difference of opinion as to what procedure is best—premature delivery, forceps, pubiotomy or abdominal section. Craniotomy has been somewhat favored in the past, but when facilities for clean surgery are available it should never be necessary. When the true conjugate measures 9.5 cm. one may easily err in a choice of methods and obstetrics ceases to be an exact science. If the patient is only seen for the first time after the beginning of labor, or where there is a suspicion of aseptic conditions, the obstetrician will be handicapped. There is a wide variation in the statistics of the frequency of pelvic contractions, and we may divide them into two kinds—the absolute and the relative—only the latter of which is considered by the author. "With 7 cm. true conjugate as the dividing line, it was found in the Vienna clinic that no spontaneous births took place in a contraction of this degree, and that intervention was



required in 85 per cent. of those having a true conjugate of 7.5 cm.; in 75 per cent. having 8 cm.; 50.3 per cent. having 9 cm., and 24.4 per cent. having a true conjugate of 9.5 cm.

Every pregnancy with contracted pelvis, Leavitt says, is a law to itself and demands special consideration. His practice is: first make sure that the pelvic measurements are ample and if there is any marked variation in the three transverse external measurements—intraspinal 26 cm., intracristal 29 cm., intratrochanteric 31 cm.—he goes over the pelvis with more detail and notes especially if it is foreshortened. If he succeeds in reaching with two fingers the promontory he knows he has some contraction to deal with, and often uses exact measures to determine the exact amount. If it is found to measure as low as 8 cm., or even 10 cm., he prepares for trouble. The next thing is to find the size of the baby's head, which is more difficult to estimate; if not more than the average he must still estimate the amount of molding that will be possible and the probable strength of the uterine contractions. If the natural forces are not competent to deliver something must be done. If one sees these cases early enough something may be done to influence the growth of the child *in utero* by modifying the mother's diet as recommended by Prochownik. Leavitt's experience with the induction of premature labor has been very satisfactory, only one case out of a half dozen or more resulting badly. The history of a case illustrating the advantages of this plan is given. In another case reported pubiotomy was tried with success, and still another, which had evidently gone over time, in which cesarean section was performed after natural delivery had been tried. In yet another case, briefly reported, cesarean section was tried at once because the true conjugate was only 8.5 cm. The patient was a young primipara, who was thus saved many hours of useless labor, and whose recovery was as uneventful as that of a normal labor. Leavitt declares his personal preference for the use of the knife when on account of contracted pelvis one or the other of the procedures is required.

#### Precocious Maternity.

The *Bull. Soc. d'Obst. de Paris*, 1911, xiv., reports the case of a girl aged 14 years and 1 month who gave birth to a full-term child presenting double spina bifida, one in the cervico-dorsal and the other in the dorso-lumbar region. Death took place from inanition on the fourth day of life. The mother, whose labor had been normal, made an uninterrupted recovery.

#### Haemophilia in the Newborn.

A male infant with no family history of haemophilia or syphilis was vaccinated on the third day of life. One of the punctures made at 9.30 A. M. began to bleed at once, and after ineffectual attempts to control the hemorrhage death took place at 5 P. M. The necropsy showed both lungs to be filled with infarcts. The other organs showed no macroscopic lesions.—(*Bull. d'Obst. de Paris*, 1911, xiv.)

Langes reports eight pregnant women treated with salvarsan in the last three months of pregnancy; the Wassermann reactions were positive, the lues latent. Only one injection was given. In none of the women did the injection cause the advent of labor pains. All the children were born apparently healthy, and gave negative Wassermann reactions. He believes, however, that salvarsan should be followed up with mercury.

## Pathology

### Contributions of the Nineteenth Century to a Living Pathology.

William J. Mayo, of Rochester, Minn., after a brilliant review of the progress made in living pathology by a long line of noted observers, points out how the development of medicine as a whole has been affected by the newer methods of investigation. Specialists of the past generation attempted to divide man into parts for examination and treatment. To-day our subdivisions are more minute because of a wider knowledge, but no parts stand alone as in days gone by. So vast is the extent of knowledge to be gained of disease that no one man can hope to accomplish more than a small share during his lifetime. The old-time family practitioner has passed away and with him has passed individualism in medicine. Our great accumulation of knowledge must be applied to the aid of individual patients through co-operation in medicine. Medicine must no longer be practised individually but by groups of men, each one bringing the results of his work and studies to bear upon the case. In no other way can the patient receive the benefits to which he is entitled. How this co-operation can be brought about is our present problem. We are working out this plan in our clinics, but only the poor benefit, yet there is a strong tendency toward co-operative service for the private patient as well, and groups of men are joining their forces for this most beneficial purpose. The twentieth century starts out with a broad conception of the function of medicine. It is working for the masses in the prevention of disease. Care of the public health has become the most important duty of the State.—(*Boston Med. and Surg. J.*, November 28, 1912.)

### The Pathological Relations of Urine to Mental and Nervous Diseases.

S. R. Klein, of Chicago (*New York Medical Journal*, October 26, 1912), discusses the quantitative changes in the urine observed in diseases of the nervous system. A familiar example is the polyuria of any nerve tension in neurotics, most commonly seen in hysterical excitement. Yet oliguria may also occur in these cases, or even complete anuria, which should not be confounded with hysterical retention. So also in epilepsy, polyuria, oliguria or retention may occur. Mendel finds an excess of uric acid, urea and phosphates in ninety per cent of epileptics. Defleury, in neurasthenia, has noted an increase in the chlorides and the earthy phosphates as compared to the alkaline phosphates, as well as diminution in volume and high specific gravity. Bruce Jones first noted an excess of phosphates in meningitis. Ivanoff found that in so-called phosphaturia the amount of phosphoric acid is below, rather than above the normal. Rabow has observed a low specific gravity in many cases of mania. Lailler has found an increased amount of chlorides in the last period of paralysis. Rabenau detected in 88% of paralytic patients albumin, although there was not a trace found of any kind of casts. Mendel never found sugar in the urine of his epileptic patients. Köning and Mendel found an increase of nearly 1,000 Cc. in the volume of urine after epileptic attacks. Falret, in depressive mania, found the amount of urine excessively increased. Albumin is frequently found in the urine after attacks of apoplexy, in cerebral growths, and in various inflammatory processes affecting the brain. Sugar may sometimes be present, especially when hemorrhage takes

place into the fourth ventricle. In Grave's disease polyuria frequently occurs, with or without sugar. Sugar has been found in delirium tremens, paranoia and melancholia. Arndt detected alimentary glycosuria in twenty per cent. of melancholic cases. Indicanuria is found mostly in melancholia, paranoia, mania, and especially delirium tremens. In the last named disease immense indicanuria may be observed at times.

#### **Sterility in the Female Without Marked Gross Pathology.**

Charles C. Norris, of Philadelphia, thinks that a marriage may be considered sterile after two years, provided no means have been employed to prevent conception. Other authorities extend the period to three years or even longer. In the majority of cases impregnation will not occur after such a period has elapsed. The responsibility of the male is estimated by some observers to be as high as fifty per cent. A man may be potent and yet be sterile. No woman should be pronounced sterile until the fecundity of her husband has been proven, and it is of even greater importance that she should not be subjected to the risk of an operation, however trivial, until this point has been positively ascertained. Sterility may be primary or acquired, absolute or relative. In 1900, twenty per cent. of native marriages were unfruitful. According to Engleman there is more sterility in the United States than in any other country in the world except France. Norris deals in his paper with the cases that are apparently normal, the uterus and appendages movable and of nearly normal size, and in which the vagina presents no very marked abnormality. His conclusions are as follows:

1. One in every seven or eight marriages is sterile. About fifty to seventy-five per cent. of these are due to sterility of the woman.

2. Sterility may be the result of a variety of causes, both local and general. The success of the treatment depends upon the correct diagnosis of the etiological factor present in each case.

3. Excluding gonorrhea, the three most frequent local causes productive of sterility are hypoplasia of the uterus, constriction of the cervical canal or a mild grade of cervicitis.

4. The routine practice of subjecting all cases of sterility to some form of dilatation operation, often without even ascertaining if the woman be the partner in fault, cannot be too severely condemned.

5. When hypoplasia of the uterus, a constriction of the cervical canal, or antelexion is present, the stem pessary offers an excellent means of treatment. It produces permanent dilatation, as proven by the fact that it cures more than eighty-six per cent. of cases of expulsive dysmenorrhea. The stem pessary tends to produce development in cases of hypoplasia of the uterus and, by the drainage secured, often cures, and in all cases facilitates, the treatment of endocervicitis of non-gonorrheal origin. It also straightens out flexions. This form of treatment has been successful in thirty-seven per cent. of the cases in the gynecological department of the Hospital of the University of Pennsylvania.

6. No ill effects have followed this form of treatment in any of the cases operated upon for sterility or dysmenorrhea. This now comprises a large series of cases. It is essential that gonorrhea and the various forms of pelvic inflammatory disease be excluded.—(*Surgery, Gynecology and Obstetrics*, December, 1912.)

Small mucous polypi in the distal end of the urethra can be removed after an application of 2 per cent. novocain solution.

## **Medicine**

### **A Further Contribution to the Action of Lactic Acid Bacilli on the Percentage of Glucose in the Urine in Diabetics.**

Philip Horowitz, of New York, reports additional cases (supplementary to cases reported in *Medical Record*, March 9, 1912), in which good results, in some curative, were obtained by the use of the *B. bulgaricus*. Full clinical details are given and the following conclusions are offered:

1. While we all agree that in cases that have come to autopsy, there are changes in the Islands of Langerhans, and that these changes are probably present in all cases of diabetes, with perhaps irritation and changes in the suprarenals, thyroid, nervous system, and hypophysis, still these changes are also caused by an auto-intoxication.

2. That in cases where there is no indican in the urine and no auto-intoxication we usually have definite causative factors producing the glycosuria as in thyroidectomy, ether narcosis with a probable parenchymatous degeneration of the liver, etc.

3. That in the majority of cases the indican output is in close relation to that of the sugar.

4. That by correcting and curing the auto-intoxication we remove the irritating influences on the sugar-regulating apparatus.

5. That *B. bulgaricus* destroys putrefaction and so overcomes the auto-intoxication.

6. That the bacillus changes the reaction of the intestinal tract from an alkaline to an acid condition.

7. That carbohydrate digestion is inhibited or is rather very much slower in the presence of this lactic acid.

8. That by thus lengthening the time of carbohydrate digestion only small amounts of sugar are formed and absorbed.

9. That by permitting only small amounts to be formed and absorbed, we gradually increase the tolerance for carbohydrates until a normal tolerance is established.—(*Medical Record*, Jan. 25, 1913.)

#### **Trachoma in Its Relation to Blindness.**

It is altogether probable, says Clarence Payne Franklin, of Philadelphia, that an enormous number of cases of trachoma are scattered throughout the country, confronting us with the possibility of the gradual leavening of the lump that, neglected, can easily raise our blind-rate with all that that phrase implies. That it is an alien disease is axiomatic, so far as its origin is concerned. There has never been any doubt as to its introduction into this country from Europe. England's filtering out of trachoma does not prevent its leaking in from other sources, and there is not a country in Europe that does not send us annually its quota of cases. Our northern and southern borders are only outdone by our western coast in allowing a seepage that has been great in the past. There is sufficient trachoma in the United States at the present time to increase, by an only comparatively slight neglect, to troublesome proportions. The cause is yet unknown. Exclusion at our ports is becoming as nearly perfect as is humanly possible. The relation of trachoma to blindness is a close one, symptomatically, as untreated cases commonly lead, through terrible sequelæ, to blindness. The relation of trachoma to blindness sociologically is, however, an entirely different problem, depending upon many factors, such as climate, race, environment and the persistence and vigor of the warfare waged upon the dis-



ease by health authorities, national, state and municipal. There are nearly as many factors in the problem as there are states in the Union, because of the doctrine of preservation of state rights. There is thus no uniform law regarding public care, and not many of the states have any laws relating to it. This adds another argument to the list in favor of the establishment of a national department of health, with a secretary of health in the cabinet of the President. Our asylums and institutions show, statistically, the results of neglected or badly treated trachoma, but our lagging civilization fails to do the obvious thing—prevent evil effects when causes are known. A highly progressive nation would handle this problem with vigor and efficiency. Just now most of the cases come under private care and a class of public officers has not yet developed whose aim for the public welfare will be prevention, rather than cure. We must awake to the fact that this as well as all other causes of blindness must be made preventable, as a plain business proposition and one of conservation and economy. The plain common-sense, practical thing to do will be to shut the door to more trachoma, care for and relieve those now among us in a proper manner, and prevent blindness, all of which will ease the tax rates of an unnecessary burden.—(*Pennsylvania Medical Journal*, January, 1913.)

#### The Inunction Treatment of Measles.

D. I. Connolly, of Manchester, England, has given the inunction treatment a thorough trial in extensive institution work and is satisfied that the good results as regards mortality, etc., are well marked. The same treatment has a good record in scarlet fever as well. As soon as the child is received into the special ward assigned to measles a hot bath is given. Then follows a thorough application of eucalyptus oil to the whole of the body, with the exception of the hands and the part of the face round about the nose, mouth and eyes. The mouth is irrigated twice daily with weak alum lotion, and glycerine and borax are applied to the interior of the mouth and to the gums. The throat (tonsils and fauces) treated with carbolic oil (1-10) morning and evening by swabbing, a tongue depressor being used. Every day for the following four days the child is blanket-bathed morning and evening, and again rubbed all over with eucalyptus oil, the throat and mouth having the same treatment as on admission. By attacking the mouth and throat one strikes at one of the chief strongholds of the virus. The main idea as regards the eucalyptus is to get the vapor inhaled into the air passages, though it is probably effective for other reasons besides. The face area is omitted because the vapor irritates the eyes. The cases treated by Connolly came from the poorest class of the community, with poor resisting power, and many of the cases were received late in the disease. Often they were already attacked with broncho-pneumonia. The percentage of complications was large, because of the proneness to all kinds of infection of this class of patients. Nursing was careful and constant and the temperature of the wards maintained at about 65° F. A decided value must be placed upon this method of treating measles. Connolly's case-mortality fell from 11 per cent. to 5 per cent. (two periods of twelve months each compared). The general measures were the same in both series. The good results are probably attributable to the combined effects of the mouth treatment and the eucalyptus inunctions. Connolly suggests that in time of epidemic all susceptible children be given the benefit of preventive treatment by this method.—(*The Practitioner*, November, 1912.)

#### Chilblains.

Ernest Dwight Chipman, of San Francisco, after a general consideration of the subject, lays down the principles of treatment of chilblains as follows: Rest in bed and change of climate are two remedial measures of great efficacy, although often impracticable. It is surprising how severe lesions are sometimes transformed by a few days sojourn in a hospital. Warmth and the regulation of the peripheral circulation account for the striking results. Cod liver oil combats the predisposition. The liberal ingestion of fats and an ample diet are indicated. Brocq vaunts quinine as a specific, Crocker nitroglycerin, Wright calcium chloride. Others advocate arsenic. Warm, properly fitting gloves and shoes and proper conditions of work are first requirements. Protection must be sought against moisture as well as cold and close proximity to stoves, radiators, etc., must be avoided. Most lists of remedies fail to specify the clinical aspect for which the particular substance is to be used. To say that certain medicaments are good for chilblains is to be both incomplete and confusing. The following scheme is suggested: For simple erythematous lesions with itching and burning a calamine and zinc lotion containing 1½ per cent. phenol; for deep, infiltrated lesions ichthyol paste in from 10 to 20 per cent. paste; for ulcerations, 10 per cent. solution of silver nitrate or pure balsam of peru. As a prophylactic application of tincture of iodine or frictions with spirits of camphor followed by the application of an indifferent dusting powder as talcum or lycopodium.—(*California State Jour. of Med.*, December, 1912.)

#### Visceral Organisms.

Alexis Carrel, of New York, reports the development of a technique by which a system of organs may be caused to live *in vitro*. His method consists in removing, aseptically, *en masse*, heart, lungs, liver, stomach and part of the intestines, pancreas, adrenals, kidneys and spleen of an animal, a cat generally being used, and preserving these organs in an incubator at the temperature of 38 C. (100.4 F.), while the lungs are being artificially ventilated. Under ether, the esophagus is severed after ligation, the trachea cut across and a glass tube inserted into its lumen, with a catheter introduced into it as far as the bifurcation, the abdomen opened and the aorta and vena cava tied in the lower part of the abdomen, the small intestine cut, the ureters severed, the posterior branches of the aorta and vena cava tied, the peritoneum surrounding the kidney dissected, the splanchnic nerves cut, and all the abdominal viscera wrapped in a Japanese towel and separated from the abdominal wall, remaining united to the animal however, by the aorta and vena cava. Then the thoracic cavity is opened and the mammary vessels clamped, the diaphragm completely separated from the thoracic wall, artificial respiration established, and the anonymous arteries tied, when the animal dies. The superior vena cava and the azygos vein are now tied and cut, the vagus sympathetic and phrenic nerves severed and all the posterior branches of the thoracic aorta cut. Then all the organs, united through their blood-vessels, are removed and placed in a tray containing Ringer's solution, at about 38 C. A careful hemostasis of the small vessels is made. A blood transfusion from the carotid of another cat to the inferior vena cava of the visceral organism is made, which makes the lungs pink, raises the blood-pressure higher than normal, and sets the heart beating (it has pulsated weakly before and the blood pressure has been low) strongly from 120 to 150 a minute. All the organs take on a natural color in place

of an anemic one. The abdominal aorta pulsates violently and strong pulsations may be seen in the arteries of the stomach, liver and kidneys. Peristaltic contractions of the stomach and of the intestines are observed. A quantity of blood is allowed to flow from the lower part of the abdominal aorta if the blood-pressure continues above normal. Next the visceral organism is placed in a tin box filled with Ringer's solution, covered with thin Japanese silk and protected by a glass cover. The tracheal tube and the esophageal tubes are fastened to proper openings in the anterior wall of the box. Artificial respiration is carried on by a continuous current of air interrupted ten times per minute. Water or food can be injected into the stomach through the esophageal tube. The intestine is pulled through a glass and rubber tube fixed through the posterior wall of the box. The end of the intestine is fixed by a circular suture to the edge of the rubber tube, an artificial anus being made. The box is then put into an incubator at a constant temperature of about 38 C. The viscera will now be observed to be living in an apparently normal condition. The pulsations of the heart and the circulation of the organs are normal. The intestine empties itself through the artificial anus by regular peristaltic contractions. When the intestine is empty bile and intestinal juices will be evacuated. Normal digestion occurs. But after five or six hours, progressive peritonitis develops and the intestine may show paralysis. The circulation remains excellent, however, and section of a small mesenteric artery produces abundant hemorrhage. Most of the organs will be found in normal condition ten, twelve or even thirteen hours after the death of the animal to which the organs belonged, though some die almost suddenly after three or four hours. The death of the visceral organism is announced by some irregularities in the pulsations of the heart, which also becomes weaker. Then the heart stops suddenly. It is probable that the duration of life will be increased by certain modifications of the technique, but even as it is profitable use can be made of a visceral organism for the study of many physiologic and chemical problems. In one of Carrel's cases death did not occur for thirteen hours and fifteen minutes.—(*J. A. M. A.*, December 14, 1912.)

#### Local Anesthesia in a New Field.

Harttung, Assistant in Surgery in All Saints Hospital, Breslau, gives a detailed description of Sauerbruch's operation for longitudinal mediastinotomy, under local anesthesia. The patient was a very debilitated woman, 39 years of age. General narcosis was contraindicated. As the author's experience with the pantopon-scopolamin narcosis was not favorable, he decided to use a local anesthetic.

Half an hour before the operation the patient was given 1 cg. of morphine. Close to both sides of the sternum, from the middle of the bone to the fifth intercostal space, five wheals were raised, and then, starting from these points, 5 Cc. of a 1% novocain-suprarenin solution were injected into the posterior costal space. Then the whole circumscribed area within the wheals was infiltrated with a ½% novocain-suprarenin solution, whereby the lower insertion points were connected with each other in the form of an obtuse angle, opening upwards. There still remained the anesthetizing of the supraclavicular space. Here infiltration anesthesia was used, according to directions of Braun, carefully penetrating into the depths, in order not to damage an important nerve trunk. The skin was anes-

thetized up to the cricoid cartilage from the two upper insertion points. Twenty minutes after the injection the operation started, and was performed without resource to narcosis. The patient did not show any sign of sensibility.—(*Deutsch Med. Woch.*, March 6, 1913.)

#### Modern Diagnosis and Treatment of Chancroids.

Moses Scholtz of Cincinnati thinks that the subject of chancroid is slighted in favor of more fortunate members of the pathological family. Therefore it lags behind in theoretical research and clinical application of modern ideas, although if the claim of a disease on the attention is to be measured by the amount of suffering it inflicts on its victims, chancroid certainly does not get its share of attention. Hyde states that many of the consequences of chancroid are much more severe and some of them even more malignant than the average of syphilitic sequels, and even than some forms of other diseases classed as malignant. Scholtz concludes his exhaustive paper by emphasizing the following points:

1. Chancroid is by far not a closed chapter in medicine, neither theoretically nor clinically, and deserves a greater attention at the hands of the profession than it has been granted heretofore.
2. Exact diagnosis in many cases can be made only after bacteriological search for *spirocheta pallida* and *streptobacillus* of Unna Ducey.
3. Among chemical cauterizing agents, fumans nitric acid and pure carbolic acid are most serviceable; silver nitrate and copper sulphate most objectionable.
4. X-rays seemingly exert a specific action on chancroid and should be resorted to in all rebellious and phagedenic cases.
5. Radiant heat, in the form of leucodescent light, acts beneficially on chancroid, having the double effect of a germicide and powerful physiological stimulus.
6. Phimosis in chancroid should be treated conservatively and should be relieved surgically in extreme cases only.
7. Radical extirpation of the glands in chancroidal bubo is unnecessary and an objectionable procedure.—(*Urologic and Cutaneous Review*, January, 1913.)

#### The Ruhemann Uricometer.

H. C. Bradley and E. Bunta, Madison, Wis. (*J. A. M. A.*, January 4), give the results of a critical examination of the Ruhemann method for the clinical estimation of uric acid, made in the department of physiology of the University of Wisconsin. The urine of a single individual, under regulated dietary and exercise, was examined for forty days successively, and the fluctuations in uric-acid output, as measured by the uricometer and by the standard method of Folin, are shown in a chart accompanying the article. The former method requires only about ten minutes and no special equipment beyond the empirically graduated tube and the special iodine solution, while the latter requires twelve hours. The chart shows a fair degree of parallelism, though the uricometer tends to give abnormally high readings as the amount of uric acid increases, which may exceed the absolute figure by as much as 30 per cent., and this would be important in pathologic conditions. They conclude, however, that it might be used so long as the amount of uric acid indicated is low, and the lower it is the greater the presumption of accuracy.

Neosalvarsan is said to have given good results in a case of Paget's disease of the bones.



## Treatment

### The Treatment of Polyarthritis.

Schultze, of St. Joseph's Hospital of the Gray Sisters, Berlin, discusses his treatment of acute and subacute polyarthritis, and neuralgic affections.

The physician is often compelled to change the therapeutic agents in the treatment of these diseases, mostly on account of the unpleasant gastric effects from the drugs. In such cases Schultze advises the employment of melubrin. Generally, the indications call for it in cases of moderate severity. In one bad attack of polyarthritis it proved extremely valuable. In a case of sciatica of several years' standing, a remarkable improvement took place after its use. In the severe and especially painful affections of this kind, probably pyramidon and its compounds are more efficacious. Should a change be necessary, melubrin should be employed, as it has no by-effects and very often the patients will improve under this medication. The majority of the patients who have once taken the drug wish to continue, as, of all the remedies, it caused the least after-effects, besides giving good results.

Schultze is of opinion that melubrin is a valuable anti-rheumatic, with the advantage of being well borne. He says it undoubtedly has a specific action in the above-mentioned diseases.—(*Med. Klinik*, No. 11, 1913.)

### Dysentery in State Institutions.

H. A. Jones, Howard, R. I. (*J. A. M. A.*, January 4), says that dysentery is quite apt to be epidemic in prisons, jails, almshouses, etc., during the months of August and September. When epidemic it occurs in all its forms and bloody dejections are usually found in the demented and aged, whose recuperative powers are low, and arteriosclerosis extends to the finer vessels of the intestinal viscera. When this is very marked the usual remedies appear to have no effect. Jones has gone through the whole list of remedies for dysentery in the pharmacopœia in these cases and used high colon flushings with various medicated solutions. Much useless pain is given the patient by unskillful manipulations in the rectum, and it is best to leave that part at rest. As the disease is considered infectious, isolation is necessary and the patient put to bed. The treatment is begun by giving one grain of calomel at once, and two hours later he gives an acid diarrhœa mixture composed of 3 drams of the dilute sulphuric acid of the pharmacopœia with 1 ounce of tinctura cardamomi composita and 8 ounces of water, repeating the dose every two hours during the disease. In conjunction the patient is to be given one tablespoonful of olive oil every two hours and no other drug or food, except to the aged, to whom he also gives a teaspoonful of brandy every three hours. He has found this treatment very effective in the less debilitated and stronger patients, the discharge stopping in three days, the period of bed rest shortened from weeks to a few days and no slumbering appetite aroused by opium or alcohol. He advises its use in military barracks and camps as well as in State institutions.

### A Study of the Toxicity of the Salicylates Based on Clinical Statistics.

Paul J. Hanzlik, of Cleveland, undertook this study at the Lakeside Hospital in the hope of clearing up some of the traditions concerning the therapeutic use of the salicylates. The records of about four hundred

patients were secured. The fact that they had been kept with no definite aim for such an investigation helped to insure the complete impartiality of the data. Hanzlik's conclusions follow:

1. The mean toxic doses of the different salicylates for adult males and females, respectively, are 180 and 140 grains of the synthetic sodium salicylate; 200 and 135 grains of the natural sodium salicylate; 120 minims of the oil of gaultheria (methyl salicylate); 165 and 120 grains of acetylsalicylic acid (aspirin); and 100 and 83 grains of salicylosalicylic acid (disposal). For females the toxic dose of the salicylates is approximately 80 per cent. of that for males.

- The toxic dose of salicylosalicylic acid is about 50 per cent., and that of methyl salicylate and acetylsalicylic acid about 60 per cent. of that of sodium salicylate.

2. The toxic dose of the synthetic sodium salicylate for the majority, or about 68 per cent. of individuals of both sexes lies between 100 and 200 grains. Practically the same is true of the methyl salicylate.

3. The toxic dose of the different salicylates is not influenced by age between 16 and 75 years.

4. The toxic dose of the synthetic salicylate is the same in white and colored races.

5. The toxic dose of different salicylates is practically the same in various diseased conditions.

6. The therapeutic response in various diseased conditions does not modify the toxic doses of the synthetic salicylate.

7. The therapeutic efficiency of synthetic sodium salicylate is greatest in rheumatic fever and, not infrequently, partial relief and even complete relief are obtained in other conditions.

8. Presumably, there is no relation between the occurrence of albuminuria in febrile and afebrile conditions and toxic doses of the synthetic salicylate.

9. Individuals show idiosyncrasy toward toxic doses of the synthetic salicylate, but no connection was found between these idiosyncrasies and the factors of age, sex, race and diseased condition. The idiosyncrasy generally varies in the same patient, and is not influenced by previous salicylate medication.—(*J. A. M. A.*, March 29, 1913.)

### The Treatment of Surgical Shock.

Joseph M. Wells, of Trenton, N. J., points out that the treatment of surgical shock has changed very much during the past few years, due to a changed view of its pathology. He gives a short review of the views now held on the pathology and sums up the modern treatment of shock as follows:

In true surgical shock stimulants including strychnia do no good, but may do harm. In collapse strychnia is the best drug to use. In all cases of shock adrenalin should be given; also ergot and digitalin except where the shock is very slight. While in shock normal salt solution is of temporary use, in collapse it is often all that is needed. In cases of slight shock elevating the foot of the bed will often suffice; in the more severe bandages should be used in addition to the treatment by drugs. Wells has used very successfully the method of administering adrenalin by the nostrils.—(*International Journal of Surgery*, January, 1913.)

Acute osteomyelitis should have prompt recognition and immediate treatment by drainage. The primal localization in the diaphyseal ends of the long bones, and particularly near the upper end of the femur and the lower end of the tibia, emphasizes the fact that acute articular rheumatism or other joint affections never begin in this region.

## The Physician's Library

### A Reference Handbook of the Medical Science.

Edited by T. L. Stedman, M. D. Vol. I. Cloth, 936 pages and over 600 engravings. Price the set, muslin, \$56; leather, \$54. New York, William Wood & Co., 1913.

In many ways this is a valuable reference book, but a comparison with the first edition, edited by Albert H. Buck, and published 28 years ago, shows a striking similarity between some of the text matter of 1885 and 1913. Either those features of medicine have not advanced in over a quarter of a century or the editorial revision has not been thoroughly carried out.

This volume includes the medical data from Abdomen to Bacteriuria. Much space has been devoted to important subjects. Thirty pages to chronic arthritis, 40 to anesthesia and 44 to the Army Medical Department. Abortion is amply covered, but the text matter of 1913 closely resembles that of the old edition although a different author's name is signed.

The book is profusely illustrated but the cuts lose value as many of them have done yeoman service throughout the entire series.

Although a book of this nature must of necessity possess value, the employment of so much old matter and the laxity in not bringing some of the data up to date, naturally detracts from the worth of the contents. It is devoutly to be hoped the succeeding volumes will be rewritten or thoroughly revised, for this series could be made the best of its kind in existence.

### Diseases of the Stomach and Upper Alimentary

Tract. By Anthony Bassler, M. D., Professor of Clinical Medicine in New York Polyclinic Medical School. Cloth, 870 pages. Illustrated. Price \$6.00 net. Philadelphia: F. A. Davis Company, 1913.

The excellence of this book is fully attested by the necessity for a second edition in less than a year after its initial publication. The author has taken the opportunity to rewrite certain parts, thus giving the reader the very latest in this important subject. Gastro-enterology is becoming a specialty of real worth and one of the most valuable features of this book is that Bassler recognizes the necessity, on the part of the gastroenterologist, of possessing a wide knowledge of general medicine. His book, based on this foundation, is intensely practical. He goes into the subject from every angle and while in places we cannot entirely agree with his findings the general tone of the volume is so excellent that we do not hesitate to commend it as a clear, honest and painstaking review of a great subject.

**Bacteriology and Pathology for Nurses.** By Jay G. Roberts, M. D. Cloth, 206 pages. Illustrated. Price, \$1.25 net. Philadelphia and London: W. B. Saunders Company, 1912.

The author has gracefully and carefully condensed into small volume an immense amount of information. As a teacher of nurses he has seen the necessity of giving them the elements of these subjects in tabloid form and he has succeeded admirably. For example, the chapter of serum diagnosis is a marvel of completeness and conciseness. In two pages he gives a clear idea of the Wassermann reaction. While Roberts has of necessity only "touched the high spots," he has done a real service to nurses in placing within their educational limits a thorough work on bacteriology and pathology.

**The Surgical Clinics of John B. Murphy, M. D., at Mercy Hospital, Chicago.** Volume II. Number I (February, 1913). Octavo of 179 pages. Illustrated. Published bi-monthly. Price per year: paper, \$8.00; cloth, \$12.00. Philadelphia and London: W. B. Saunders Company, 1913.

When the works of Murphy are finally judged this series of surgical clinics will be recognized as no small part of his great professional service. In reviewing this number it is hard to differentiate, so helpful are the various talks. Outside of an address and operation by Mr. W. Arbuthnot Lane of London on Open Treatment of Wounds, which in itself is a masterful treatment of this method, Murphy lucidly discusses among other subjects Tuberculosis of the Knee, Paget's Disease, Fracture and Luxation of Neck of Humerus and Laminectomy. These clinics give the physician a bird's-eye view of Murphy's everyday work.

**Medical Inspector E. R. Stitt, U. S. N.,** is one of



the many men who are reflecting decided credit upon governmental surgeons. He is a graduate of London School of Tropical Medicine and was formerly instructor in Bacteriology and Tropical Medicine in U. S. Naval School and Lecturer in Tropical Medicine in Jefferson Medical College. He is best known by his book, Practical Bacteriology, Blood Work and Animal Parasitology.

**Surgical After-Treatment.** By L. R. G. Crandon, M. D., Assistant in Surgery, and Albert Ehrenfried, M. D., Assistant in Anatomy at Harvard Medical School. Second edition, practically rewritten. Octavo of 831 pages, with 264 original illustrations. Cloth, \$6.00 net; half morocco, \$7.50 net. Philadelphia and London: W. B. Saunders Company, 1912.

When one considers the paramount importance of treatment subsequent to operation, the necessity for this book becomes at once apparent. A careful study emphasizes its value, for while standard works on surgery amplify every operative detail, very few go into the very necessary minutiae of post operative treatment.

This book is admirably suited to the purpose. As summing the operation has been successfully completed, it takes up the after care of all conditions in which the knife has played a part. In addition it discusses thirst, pain, pulse, hemorrhage, shock, coma and the like. It gives diet lists, explains the advantages of massage, electro-therapy; in short the book is a complete encyclopedic description of what the physician should know in caring for a surgical patient. To the man whose duties include the supervision of this class of cases the authors have given a volume, which is intensely practical and of the greatest possible value.

**Obstetric and Gynecologic Nursing.** By Edward P. Davis, M. D., Professor of Obstetrics in Jefferson Medical College, Philadelphia, etc. Buckram, 480 pages. Illustrated. Price, \$1.75. Philadelphia and London: W. B. Saunders Company, 1913.

In this book the author has taken the nurse figuratively from the very beginning of pregnancy, through gestation and labor, to the period when the infant is

(Continued on p. 20.)



## Intestinal Antisepsis

has for many years been accepted with growing appreciation as the rational treatment in gastro-intestinal diseases that are the result of fermentation or putrefaction.

The class of remedies possessing the power to arrest the septic process, correct atonic relaxation and allay the inflammation is well represented in

# BISMACOL

Each fluid ounce of which represents :

Bismuth Oxide Hydrated . . . . .	12 grains
Magnesium Salicylate . . . . .	1 grain
Geranium Maculatum . . . . .	32 grains
Pancreatin . . . . .	4 "
Potassium Guaiacol Sulphonate . . . . .	4 "
Sodium Sulphophenate . . . . .	1 grain
Chloroform . . . . .	2 minims
Elm in Mucilage . . . . .	10 grains

Bismacol is given with every reasonable assurance of success in diarrhea and dysentery, especially in the fermentative and choleric diseases incident to the summer season.

The finely divided Bismuth Magma supplies a uniform coating over the mucous membranes of the entire gastro-intestinal tract.

Bismacol is sedative, antiseptic and astringent without harshness or undue styptic effect that might interfere with the restoration of normal gastric function.

To any physician who has never prescribed Bismacol, or is unable to secure it from the local druggist or supply house, we will send a full size bottle on receipt of 50 cents to cover the delivery and packing expense. The regular price is 80 cents per bottle.

**THE WM. S. MERRELL CHEMICAL COMPANY**  
CINCINNATI

teething. It is an enlightening presentation of the entire range of obstetric nursing. A wealth of assisting facts are given in conjunction with the technical elements. In addition nearly 200 pages are devoted to gynecologic nursing, a branch in which our experience has shown that many nurses are sadly deficient.

A complete understanding of the contents of this book would insure to the nurse the possession of practically all that is taught in obstetrical and gynecological nursing.

**Skin Grafting.** By Leonard Freeman, M. D., Professor of Surgery in the Medical Department of the University of Colorado. Cloth, 139 pages; 24 illustrations. Price, \$1.50. St. Louis: C. V. Mosby Company, 1912.

This monograph, although designed for surgeons and general practitioners, is almost too technical for men who are not devoting their entire time to surgical work. From the standpoint of the specialist the book is of especial help. As a review of skin grafting history the author has gone thoroughly into the subject and he has the satisfaction of knowing he has written a scholarly addition to surgical literature.

**Facts for the Married, and Plain Facts on Sex Hygiene.** Two books by William Lee Howard, M. D., author of Confidential Chats with Boys and Girls, Start Your Child Right and other books. Cloth. \$1 each, or \$4 for the set of four. New York: Edward J. Clode, 1912.

In this day when the shackles of prudish conventionality are being thrown off and men and women are viewing sex problems in a rational, common sense light, such books as these have a definite place in our libraries. The awful inroads upon the health of innocents caused by syphilis and gonorrhea are too well known for comment and Dr. Howard has done a lasting service to humanity by showing the effects of these diseases, in beautiful and chaste but forcible language. It is the duty of all people who value the future of themselves and their children to read carefully and conscientiously every line of these books.

**Normal Pregnancy and Labor.** By Finley Ellingwood, M.D., of Chicago. Cloth, 160 pages. Chicago: Ellingwood's Therapeutist, 1913.

The author teaches that every organic or constitutional disorder, occurring during pregnancy, must be considered pathologically and so treated. He advocates a proper regime of eating, dressing, sleeping and exercise for the parturient woman, to the end that labor may be as nearly painless as possible. The findings are based on common sense and good judgment and the routine if faithfully followed, would doubtless yield beneficial results.

**Organic and Functional Nervous Diseases.** By M. Allen Starr, M.D., LL.D., Professor of Neurology in the College of Physicians and Surgeons, New York. Fourth edition, enlarged and thoroughly revised. Cloth, 970 pages, with 323 engravings and 30 plates. Price, \$6.00, net. 1913. Lea & Febiger, Philadelphia and New York.

A revision of this standard text book has left little to be desired. Although following the style of previous editions in taking up in sequence anatomy, diagnosis, diseases of the cord, brain, nervous system, functional diseases and disorders of the sympathetic system, Starr has introduced many new features and has added much which gives a lasting value to the treatise.

Among the new or revised matter are the chapters on pellagra, syphilis of the nervous system, poliomyelitis,

brain tumors, hysteria, headaches and disorders of sleep. His references to salvarsan in tabes, as being of little value, is not borne out by the experimental work of Swift and Ellis and we note with surprise that no reference is made to neosalvarsan, which is especially valuable in syphilis of the nervous system.

The chapter on hysteria gives many new thoughts on this difficult condition. The book is the most thorough presentation of the subject of neurology yet published in a single volume and it affords the practitioner a clear, lucid interpretation of the etiology, pathology, diagnosis and treatment of forms of disease baffling in the extreme to a large part of the profession.

The typographical work is superior and adds to the attractiveness of the book.

**Household Bacteriology.** By Estelle D. Buchanan, M. S., and Robert E. Buchanan, Ph. D., of Iowa State College. Cloth, 536 pages. Illustrated. Price, \$2.25 net. New York: The Macmillan Company, 1913.

This book is intended for students in domestic science and is well adapted for the purpose. It delves deeply into the subject of every day bacteriology and its section on micro-organisms and health is replete with many helpful facts for the medical practitioner. While it gives the physician nothing he did not learn in the bacteriological laboratory, the book is a good review and is of assistance in refreshing one's knowledge along some lines in which he is likely to become rusty.

**Surgical Operations with Local Anesthesia.** By Arthur T. Hertzler, M.D., of Kansas City. Cloth, 205 pages. Price, \$2.00 net. New York: Surgery Publishing Co., 1912.

The growing importance of infiltration anesthesia has made possible the compilation of this little book, which is an excellent exponent of the subject. Surgeons are believing more and more in employing a local anesthetic whenever possible and we find some men who successfully employ this method of anesthesia in such major operations as exploratory laparotomy, gastro-enterostomy and colotomy.

Most men are agreed that the local method should have the choice, but they are not a unit on the agent. Cocain is rightfully condemned on account of the many toxic results following its injection, but such products as quinin and urea, stovain, novocain, beta-eucain, anesthesin, alpin and tropococain have their ardent advocates and are efficient agents.

Hertzler has covered the subject fully and has produced a book of exceptional value to the man who does any surgical work.

**Specific Diagnosis and Medication.** By the late John M. Scudder, M.D. 12th edition reprinted. Cloth, 819 pages. Price, \$3.00. Cincinnati, O.: John K. Scudder, 630 W. 6th street, 1913.

The reprinting of this well-known eclectic text book is in response to a demand on the part of physicians who admire the works of Dr. Scudder, the most eminent man our eclectic friends have produced.

The book is in the original, as it has not been revised for over 20 years.

Those who wish to know the basis of the eclectic school will find that this book contains the very foundations of eclecticism.

**Men, Manners and Medicine.** By Medicus Peregrinus. Octavo, uncut edges, in heavy paper cover. Price, postpaid, \$1.00. Boston: W. M. Leonard, 1913.

The essays and sketches which make up this collection  
(Continued on p. 22.)



## THERAPEUTIC MEMORANDA.

## Reduction of Fracture Under Local Anesthesia.—

Prof. H. Braun expresses himself as well satisfied in reducing and treating fractures without pain under local anesthesia (*Deutsch. med. Woch.* No. 1, 1913). In 50 cases of subcutaneous fractures and dislocations, he has followed the method of injecting a 1 per cent. novocain-suprarenin solution. He finds the pain subsided in a few moments and disappeared for a considerable period. Three fractures of the radius were reduced without any pain when 10 Cc. of this solution were injected. By means of plexus anesthesia he reduced 7 fractures of the fore-arm with complete muscular relaxation and loss of sensation. He says he can painlessly reduce backward dislocation of the forearm and supracondylar fracture of the arm with dislocation. Braun used a novocain-suprarenin solution in 10 cases of luxation of the shoulder joint by means of plexus anesthesia, and in 5 similar cases by means of interarticular injection. In the latter series, he injected 10 Cc. of the novocain-suprarenin solution into the joint and another 10 Cc. down to the head of the humerus, which was dislocated infraclavicularly. Braun also had favorable results by the use of novocain-suprarenin injections in fractures of the ankle, leg and knee and in dislocations at the hip joint.

**Spinal Anesthesia:**—In a discussion of this subject at the last meeting of the Western Surgical Association (*Journal A. M. A.*, Jan. 25, 1913), Dr. James E. Moore, of Minneapolis, said that novocain is the favorite drug for spinal anesthesia. No other drug is used in the University of Minnesota for local or spinal

anesthesia. In that institution there has been no mortality and no uncomfortable symptoms.

Dr. L. L. McArthur, of Chicago, added that it took seven times as much novocain per kilogram of body weight to kill as it did cocain. He stated that their anesthetic properties were practically identical, but that novocain is now the drug universally used on the continent and in England instead of cocain on the basis of its toxicity.

**Nitrous Oxide-Oxygen Anesthesia:**—Leigh, and Culpepper, of Norfolk, say that nitrous oxide is the real anesthetizing agent when used in conjunction with other anesthetics (*Va. Med. Semi-Monthly*, Feb. 7, 1913). They add that "they nearly always infiltrate the tissues with novocain (Crile), for the purpose of preventing shock and lessening the pain from the sutures after the operation and relaxing the muscles overlying the peritoneum."

**Anesthesia in Operation for Goitre:**—Charles H. Mayo thinks ether works well in simple goitre and in the majority of cases of hyperthyroidism. By reason of complications, a local anesthetic may be indicated in some cases and it is advisable to secure the benefits of combined anesthesia by injecting a ½ per cent. novocain solution followed by light general anesthetic.—(*Ill. Med. Jour.*, Feb. 1913.)

**Novocain solution** may be sterilized by boiling. If Suprarenin is added to the Novocain solution it should be boiled for only a minute or two.

Syringes sterilized with sodium-carbonate solution must be rinsed with sterilized water or physiological salt solution before Novocain solutions are drawn in, as sodium-carbonate precipitates Novocain.

# Cystogen

CaK<sub>2</sub>N<sub>6</sub>

A preferred product of hexamethylene tetramine remarkably free from irritating properties.

## PHYSIOLOGICAL ACTION

Genito-urinary antiseptic and uric-acid solvent in doses of gr., V-X t. i. d.; increases the excretion of urine and of uric-acid. It causes the urine to become a dilute solution of formaldehyde with antiseptic properties. Specially valuable as a diuretic and urinary-antiseptic in cystitis, pyelitis, phosphaturia, before surgical operation on the urinary tract; during the course of infectious diseases to prevent nephritis; and as a solvent and eliminant in rheumatism and gout.

When given in large doses, gr. X to XV, four times daily, it is found in the saliva, secretions of the middle ear and nose, cerebrospinal fluid, bile; in short, in practically all secretions and excretions of the body, and hence its use as an antiseptic is indicated in Rhinitis, Otitis Media, Sinusitis, Bronchitis, Influenza and many other conditions which will at once occur to the clinician.

## Supplied as

Cystogen—Crystalline Powder.  
Cystogen—5 grain Tablets.  
Cystogen-Lithia (Effervescent Tablets).  
Cystogen-Aperient (Granular Effervescent Salt with Sodium Phosphate).

## Samples and literature on request

CYSTOGEN CHEMICAL COMPANY  
515 Olive Street, St. Louis, U. S. A.

tion originally appeared from time to time in the columns of the *Boston Medical and Surgical Journal*. They represent the observations of a doctor, from his professional point of view, on men and books and other phenomena, especially in relation to medicine.

#### Books Received.

All books received will be acknowledged in this column, and those which warrant further notice will be given a more extended review in a later issue.

**Forty-fifth Annual Report of the State Board of Charities of New York.** In 4 volumes. This is the most complete report of its kind in existence and is worthy the study of every person interested in this great work. Published in 1912 by the State of New York.

**The Modern Hospital; its Inspiration; its Architecture; its Equipment; its Operation.** By John A. Hornsby, M.D., Secretary, Hospital Section, American Medical Association; Member American Hospital Association, etc., and Richard E. Schmidt, Architect, Fellow American Institute of Architects. Octavo volume of 644 pages with 207 illustrations. Cloth, \$7.00 net; half morocco, \$8.50 net. Published in 1913 by W. B. Saunders Company, Philadelphia and London.

**Clinique Medicale de L'Hotel Dieu de Paris.** Par Trousseau, Preface Par Le Prof. A. Gilbert. Eleventh edition. Paper, 312 pages. Price 32 fr. Published by J. B. Bailliere et Fils, 19, Rue Haute Feuille, Paris.

**The Operating Room and the Patient.** By Russell S. Fowler, M.D., Chief Surgeon First Division, German Hospital, Brooklyn, New York. Third edition—rewritten and enlarged. Octavo volume of 611 pages with 212 illustrations. Cloth, \$3.50 net. Published in 1913 by W. B. Saunders Company, Philadelphia and London.

**Epidemic Cerebro-Spinal Meningitis.** By Abraham Sophian, M.D., formerly of the New York Research Laboratory. Cloth, 272 pages. Illustrated. Price, \$3.00 net. Published in 1913 by C. V. Mosby Company, St. Louis.

**Ophthalmology for Veterinarians.** By Walter N. Sharp, M.D., Professor of Ophthalmology in the Indiana Veterinary College. 12mo. of 210 pages, illustrated. Cloth, \$2.00 net. Published in 1913 by W. B. Saunders Company, Philadelphia and London.

**The Interpretation of Dreams.** By Prof. Dr. Sigmund Freud. Translated by A. A. Brill, M.D., of Columbia University. Cloth, 510 pages. Price, \$4.00 net. Published in 1913 by the Macmillan Company, New York.

**Twelfth Annual Report of the Commissioner of Labor of New York for 1912.** Published in 1913 by the State Department of Labor, Albany.

**Annual Report of the Surgeon-General of the Public Health Service of the United States.** By Surgeon General Rupert Blue, M.D. Cloth, 259 pages. Published in 1913 by the Government Printing Office, Washington.

**A Reference Handbook for Nurses.** By Amanda K. Beck, Graduate of the Illinois Training School for Nurses. Third edition, revised and enlarged. 32mo. of 229 pages. Flexible leather, \$1.25 net. Published in 1913 by W. B. Saunders Company, Philadelphia and London.

**Nervous and Mental Diseases.** By Charles S. Potts, M.D., Professor of Neurology in the Medico-Chirurgical College of Philadelphia. New (third) edition, enlarged and thoroughly revised. In one 12mo. volume of 610 pages, with 141 engravings and 6 full-page plates. Price, cloth, \$2.75 net. Published in 1913 by Lea & Febiger, Philadelphia and New York.

**The Posture of School Children.** By Jessie H. Bancroft. Cloth, 322 pages. Illustrated. Published in 1913 by the Macmillan Company, New York.

**Solidified Carbon-Dioxide.** By Ralph Bernstein, M.D., of Hahnemann Medical College, Philadelphia. Cloth, 95 pages. Published in 1913 by Frank S. Betz Co., Hammond, Ind.

**International Clinics.** Vol. I, 23d series. Cloth, 302 pages. Illustrated. Price, \$2.00. Published in 1913 by J. B. Lippincott Company, Philadelphia.

**Progressive Medicine.** Vol. XV, No. 1. Paper, 361 pages. Price for 4 numbers, \$6.00. Published in 1913 by Lea & Febiger, Philadelphia.

**A Text-Book of Physiology.** By Isaac Ott, M. D., Professor of Physiology in Medico-Chirurgical College. Fourth edition. Cloth, 911 pages. Price, \$3.50 net. Published in 1913 by F. A. Davis Company, Philadelphia.

**Hartmann's Gynecological Operations.** By Henri Hartmann, professor of the faculty of Medicine of Paris. Translated by Douglas W. Sibbald, M. B. Cloth, 536 pages; 422 illustrations. Price, \$7.00 net. Published in 1913 by P. Blakiston's Son & Co., Philadelphia.

#### New York Division, M. R. C., U. S. A.

Major E. E. Persons, Medical Corps, U. S. Army, of the faculty of the Army War College, Washington, read a paper on the national defense and the part the army's medical department will play therein at the meeting of the New York Division of the Medical Reserve Corps on April 11. He portended a bright future for the Reserve Corps surgeons and believes they will occupy a prominent part in the medical life of the army in the event of hostilities.

The meeting was the most enthusiastic yet held by the local division. Eight regular medical officers, stationed at nearby posts, were present and took an active part in the meeting.

Among those who discussed Major Persons' paper were Col. William Stephenson, Lieut. Col. Raymond, Major A. E. Truby and several lieutenants of the Reserve Corps, including Drs. John A. Wyeth, Thomas E. Satterthwaite, Max Einhorn, Thomas Darlington, Howard Lilienthal, Harold Hays, Howard Fox, W. M. Brickner, R. W. Wilcox and H. S. Baketel.

Great regret was expressed over the recent receipt of orders transferring Col. Stephenson to Chicago as chief surgeon of the central department. He has been on duty at Governor's Island for nearly two years, most of the time as sanitary inspector and he has played an important part in the formation of New York's Reserve Corps Division. He is one of the leading sanitarians of the army and his popularity with his local confreres is unbounded. His promotion is well deserved and the Illinois division of the corps will be the gainer by Col. Stephenson's removal to Chicago.

Plans are being formulated by the members of this division which will enable them to engage in active work in the field and armory. Dr. John A. Wyeth offered the corps the use of the Polyclinic Hospital as its regular meeting place.

While the younger members are expected to show the most interest in the work of the organization, various of the older surgeons are exhibiting great fondness for the corps and its purposes. Many of New York's best known medical men are on the membership list and they are attesting their keenness in the corps in numerous ways.





## BATTLE CREEK SANITARIUM

### AN EDUCATIONAL CENTRE At the Head of a World-Wide Movement For Physical Betterment

Doctor, we want you to come to Battle Creek, because we want you to understand what the Battle Creek Sanitarium really is.

This is not a Sanitarium in the ordinary sense of the word. It is an educational institution organized and equipped and managed for the promulgation of the principles of health-rebuilding by means of natural, physiological methods. The physician who comes here—no matter how many hospitals he has attended or how many other Sanitariums he has visited, will be delighted to see the vast extent of our facilities. His stay here will be like a Post-Graduate Course in a dozen different institutions all in one.

The PHYSICIAN'S BOOK, in its 215 pages, presents a brief survey of the Sanitarium, but nothing but a visit here will give an adequate understanding of the far-reaching purposes and effects of the Sanitarium. The Physician's Book is mailed free on request to any physician.

Meanwhile, if you have a patient who is not making the progress which you desire, we invite you to correspond with us about the case, and let us explain to you how we control the environs and associations and habits of those in our care in such a way as to produce the expected results.

**The Sanitarium, Dept. 335. Battle Creek, Mich.**

Dept. 335

The  
Sanitarium

Battle Creek, Mich.

Without obligating me,  
please send Physician's Book

Name .....

Address .....

City .....

State .....

The best preventives and the best remedies for

### PULMONARY TUBERCULOSIS

are

CLEANLINESS

SUNLIGHT

GOOD FOOD

But the food must be digested and assimilated: to stimulate the centres of assimilation and nutrition there is no better remedy at the physician's service than

## Wampole's Preparation of Cod Liver Extract

*The Best of Reconstructive Tonics*

It builds up the run-down patient, allays the cough and assists Nature in overcoming the invading bacilli.

PREPARED SOLELY BY

**HENRY K. WAMPOLE & CO., Inc.**

Manufacturing Pharmacists

PHILADELPHIA, U. S. A.

# MAY CLINICS, DEPARTMENT OF PUBLIC CHARITIES, NEW YORK.

## MONDAYS.

City Hospital—	
Surgery .....	Dr. Dawbarn .... 2:30 P.M.
Dermatology .....	Dr. Fordyce .... 3:00 P.M.
Cumberland Street Hospital (Brooklyn)—	
Surgery .....	Dr. Pallister .... 2:30 P.M.
Laryngology and Rhinology.....	Dr. Stewart ].... 4:00 P.M.
Oral Surgery .....	Dr. Shea .... 4:30 P.M.
Kings County Hospital (Brooklyn)—	
Gynecology .....	Dr. McNaughton. 9:00 A.M.

## TUESDAYS.

Neurological Hospital—	
Neurology .....	Dr. Bryne .... 9:00 A.M.
N. Y. Children's Hospital and Schools (R. Island)—	
Orthopedic .....	Dr. Ogilvy .... 10:00 A.M.
Cumberland Street Hospital (Brooklyn)—	
Gynecology .....	Dr. Burnham .... 1:00 P.M.
Surgery .....	Dr. Ritch .... 2:30 P.M.
Kings County Hospital (Brooklyn)—	
Obstetrics .....	Dr. Commiskey .. 10:00 A.M.
Surgery .....	Dr. Barber .... 11:00 A.M.
Genitourinary Surgery.....	Dr. Morton .... 2:00 P.M.
Genitourinary Surgery.....	Dr. Fraser .... 2:00 P.M.
Coney Island Hospital—	
Surgery .....	Drs. Fiske and Bogart ..... 10:30 A.M.
Surgery .....	Drs. Murphy and Lack ..... 10:30 A.M.
Medicine .....	Drs. Hall and Nash ..... 3:30 P.M.
Medicine.....	Drs. Hegeman and Byington ..... 3:30 P.M.

## WEDNESDAYS.

City Hospital—	
Surgery .....	Dr. Dawbarn .... 9:00 A.M.
Medicine .....	Dr. Quimby .... 1:30 P.M.
Genitourinary Surgery.....	Dr. Greene .... 2:00 P.M.
Obstetrics .....	Dr. Shears .... 2:00 P.M.
Metropolitan Hospital (May 7th)—	
Surgery .....	Drs. Ostrom and Harrington .... 2:30 P.M.

Medicine .....	Drs. Sewell and Thomas ..... 2:30 P.M.
Genitourinary Surgery.....	Dr. Carleton .... 2:30 P.M.
Laryngology and Rhinology....	Dr. Foster .... 2:30 P.M.
Neurological Hospital—	
Neurology .....	Dr. Maloney .... 10:00 A.M.
Cumberland Street Hospital (Brooklyn)—	
Ophthalmology and Otology....	Dr. Schenck .... 4:00 P.M.
Kings County Hospital (Brooklyn)—	
Dermatology .....	Dr. Winfield .... 1:00 P.M.
Orthopedics .....	Dr. Truslow .... 9:00 A.M.
Orthopedics .....	Dr. Napier .... 2:00 P.M.
Coney Island Hospital—	
Pediatrics .....	Drs. Beck and McQuillan .... 3:30 P.M.
Pediatrics .....	Drs. Pendleton and Van Wart .... 3:30 P.M.

## THURSDAYS.

City Hospital—	
Medicine .....	Dr. Evans .... 9:00 A.M.
Medicine .....	Dr. Brooks .... 2:30 P.M.
Gynecology .....	Dr. Stearns..... 2:00 P.M.
Cumberland Street Hospital (Brooklyn)—	
Gynecology .....	Dr. Burnham .... 1:00 P.M.
Surgery .....	Dr. Ritch .... 2:30 P.M.
Laryngology and Rhinology....	Dr. Stewart .... 4:00 P.M.
Kings County Hospital (Brooklyn)—	
Obstetrics .....	Drs. Commiskey and Judd ..... 10:00 A.M.
Otology .....	Dr. Alderton .... 1:00 P.M.
Surgery .....	Dr. Barber .... 2:00 P.M.
Coney Island Hospital—	
Gynecology .....	Drs. McEvitt and Mills ..... 10:30 A.M.
Gynecology .....	Drs. Mayne and Rankin ..... 10:30 A.M.
Surgery .....	Drs. Fiske and Bogart ..... 3:00 P.M.
Surgery .....	Drs. Murphy and Lack ..... 3:00 P.M.

(Continued on p. 27.)

# ANNOUNCEMENT

## GEORGE F. BUTLER, A.M., M.D.

FORMERLY OF CHICAGO

*Professor of Therapeutics, Chicago College of Medicine and Surgery;  
Author of Butler's "Materia Medica and Therapeutics,"*

Is in full charge of the Medical Department at Mudlavia. The announcement of the selection of such a competent man, whose personality, no less than his rare ability as a diagnostician and therapist, is universally recognized, will, we are sure, be endorsed by the Medical fraternity, whom we will faithfully serve.

*Mudlavia*  
*Treatment.*

The Doctor wants to hear from all his friends.  
Please write today.

Address: **DR. GEORGE F. BUTLER,**

*Medical Director*

**MUDLAVIA, KRAMER, IND.**